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WATER SUPPLY

AND

PREVENTION OF WASTE IN LEADING EUROPEAN CITIES

REPORT BY

COL. LYMBURN D. JOHNSON,

EX-WATER REGISTRAR OF NEW YORK CITY.

TO

THE MERCHANTS' ASSOCIATION OF NEW YORK

WATER SUPPLY

AND

PREVENTION OF WASTE IN LEADING EUROPEAN CITIES

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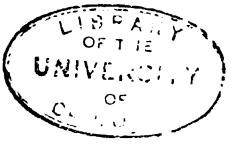

TO

THE MERCHANTS' ASSOCIATION OF NEW YORK

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THE MERCHANTS' ASSOCIATION OF NEW YORK.

To the Board of Directors of
The Merchants' Association of New York.

Gentlemen — Your Committee begs to hand you herewith Report of Mr. Columbus O. Johnson, Ex-Water Registrar of New York City, who was engaged by your Committee in August last to proceed to Europe and there, in the leading cities, to investigate and report upon the systems of water supply and distribution, the means taken to check the waste of water, and the forms of accounting relating thereto.

Your Committee finds that Mr. Johnson has gone into this subject very fully, and believes that his Report will be very valuable as a reference to the authorities of New York—more particularly to the Commission recently appointed by the Mayor to investigate and report upon these very subjects.

Respectfully submitted,

COMMITTEE ON REVISION OF CITY RECORDS
AND ACCOUNTS, AND WATER SUPPLY.
By GEORGE L. DUVAL, Chairman.

WILLIAM F. KING,	HENRY R. TOWNE,
ISAAC N. SELIGMAN,	H. A. METZ,
D. LE ROY DRESSER,	ADOLPH OPENHYM,
W. C. LE GENDRE,	DICK S. RAMSEY.

New York, March 10, 1903.

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To the Committee on
Revision of City Records and Accounts,
and Water Supply,
The Merchants' Association of New York.

Gentlemen:

IN compliance with our arrangement of last August, I take pleasure in submitting the following report of my investigations of the distribution of water, detection and prevention of waste and the system of accounts, so far as it was possible to ascertain it, in the cities of Glasgow, Liverpool, Manchester, Birmingham, London, Paris, Cologne and Berlin. I deem it desirable to report upon the system of each city separately in the order in which they were visited, giving details of rates, accounts, consumption, regulation and similar data in appendices.

It is a pleasure to say that in every city which I visited I was most cordially received by the officials from the Lord Mayor and Burgomaster down, and I may be pardoned for saying that the chief magistrates were more easily approached than the same officials are at home. I wish to speak especially of the great interest taken in the matter which I was investigating by our Ambassador to France, Gen. Horace Porter, who assisted me more than I could have dared request in my investigations in Paris, and started me right in Berlin.

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I.—GLASGOW.

THE first city visited was Glasgow. In speaking of it I shall dwell more fully upon the general government of the city than others in Great Britain, for two reasons. The government of all municipalities in Great Britain is controlled by acts of Parliament and one city is like another, except in cases where special acts are necessary for special conditions and localities. The other reason is that it is necessary to understand something of the government of the cities in order to fully grasp the question under consideration.

It will be well to note at the outset that the gallon mentioned throughout this report, unless otherwise stated, is the imperial gallon, which is about 20 per cent. larger than our wine gallon. A cubic foot contains about 6¼ imperial gallons and about 7½ wine gallons.

The Glasgow Corporation Water Works supplies a population of 1,051,000. The principal source of supply is from Loch Katrine, in the Perthshire Highlands, distant 34½ miles from the city. In order to secure a sufficient supply without lowering the loch its level has been raised at different times until it is now twelve feet above the original summer level. The water from this source is not filtered, but is passed through a system of fine screens.

From Loch Arklet water is taken through tunnels and discharged into Loch Katrine as compensation water. Since the act of 1885 the summer level of Loch Arklet has been raised twenty-five feet. The storage capacities of these lochs is 12,000,000,000 gallons. I may stop to say that while these waters are pure and clear, nevertheless there are people who might object to the use of the storage reservoir as a highway for regular and excursion steamers.

From Loch Katrine the water is taken by two aqueducts and discharged into two reservoirs located about seven miles from the city and at a sufficient elevation to give all necessary pressure. The daily capacity of these two aqueducts is

110,000,000 gallons, and the storage capacity of the two reservoirs is 1,200,000,000 gallons.

The Hydraulic Power Supply, located at the "top of High street" in the city, furnishes high-pressure water for power purposes. This requires special pipes or mains, of which there are 17 miles. The cost of the works is over £113,000. In 1900-1901 it supplied 125,788 gallons per day, which produced a revenue of £8,255.

Another supply is the River Supply Works, located about 2½ miles above Glasgow Bridge. This supplies mill owners and others along the banks of the River Clyde with water pumped from the river, which was rendered necessary in consequence of the removal of the weir in the interest of navigation and commerce. The water is pumped into reservoirs located sixty feet above the level of the river, from which it is drawn by mill-owners and others. The cost of these works has been £102,281 and the revenue drawn is £3,500 per annum.

The old Corbal Water Works is still another supply, which gives to the city about 4,500,000 gallons daily, which is drawn from the Brockburn stream and is filtered by passing through about 4½ feet of sand and gravel. These works belonged to a private company until 1856, when they were purchased by the city.

The total cost of the water plant is £3,907,577, of which £525,300 were for shares in the private companies taken over by the city.

The total daily consumption is 60,000,000 gallons, or about 72,000,000 of our wine gallons. The daily per capita consumption is 54½ gallons, equal to about 65 wine gallons. Of this quantity 34 gallons are for domestic purposes and 20½ for trade. This separating domestic from trade consumption obtains in all the cities and is definitely stated in all the reports. Water consumed by trade is generally metered and the amount is accurately known, while what is set down as domestic consumption takes in all other uses, including waste. If the Water Commissioner of New York City could give without much additional work such a statement that would be approximately correct it would be of great interest to taxpayers.

The charge or rate for water is so different from ours as to render any comparison almost impossible. The rate is based

upon the annual rental value of the property where the water is consumed, without regard to the amount used, number of faucets, baths or any other condition. Of course, the consumer can request a meter to be placed on his supply pipe, which he does if it will make the cost of water less.

For domestic use within the municipality the *consumer* pays 5 pence per pound of the rental value of the property. Without the municipality the rate is double. In addition to this a public rate of 1 penny (2 cents) per pound is charged, which is paid by the owner of the property. For other domestic uses there is a fixed rate which is given in full in Appendix A.

The rental value of the property is fixed by the Assessor or Tax Commissioner. In fact, all municipal taxes or rates are on the rental value of the property and are fixed in the same way. The Lord Provost said that under their system the assessors or valuators must be capable and honest men, as the basis of the financial system of the city was in their hands.

To assist the assessors in arriving at the correct rental value of the property, every landlord or property owner is required to return to them the exact amount of rental received the previous year. People who own the houses they live in are assessed on what would be the rental value, and have to pay the fixed rate.

All contracts commence on May 28th and are for one year. In the water department the rents or rates are based upon the previous year because the rates are paid quarterly, and some in each year are paid before the assessors' rolls are ready. Should it appear when the rolls are complete that a wrong charge has been made by reason of property having appreciated or depreciated, correction is made and a rebate is given if there has been an overcharge. The water rents, unlike ours, being a charge against the consumer and not against the landlord, which is made a lien against the real estate, severe measures are taken to collect it. If not paid after due demand, the water supply is cut off. It is only under such circumstances that such harsh measures could be tolerated. To cut off the water a valve on the supply pipe is turned and secured by a padlock. Even this severe measure is not sufficient to secure all rentals. It will be seen from a copy of last year's balance sheet in Appendix A, Exhibit 1, that over 21,000 consumers failed to pay their water

rates last year. About two-thirds of these were domestic consumers and the others trade. They will be sued, and if the bills are not then paid a warrant will be given to the Sheriff and he will levy on anything he can find of sufficient value to cover the claim, including costs. The department is, however, very lenient to the very poor, oftentimes remitting their entire rates. The Lord Provost said it was the policy of the city government to encourage the use of water as much as possible and at as low a rate as possible, the city not desiring to make any profit in the transaction. The use of water is therefore unrestricted at all hours and at all times. A special rate is made in case the annual rental does not exceed £10, as will appear by referring to Appendix A, Exhibit 2. Houses that are not occupied or rented at the beginning of the contract year, May 28th, are not rated until occupied, and then only from the time they are occupied until the end of the contract year.

It will be observed that the system of taxation renders absolutely necessary many of the differences in governing and controlling the department. When I explained that it was not necessary, and that our laws did not contemplate the deprivation of water to the innocent members of a family by cutting off the supply to enforce payment, and that to obviate this unsanitary contingency, the unpaid tax or rent was made a lien on the real estate where the water was consumed, my statement received but one response from the officials. That was they wished this could be done here, but the laws of the country would not permit it.

The use of meters is not encouraged to any great extent. The municipality does not enforce the use of meters except in some special cases. As before said, the consumer can have a meter if he so desires. They are not used to prevent waste. Other better and more permanent means are adopted, as will be seen from the regulations. Good material and good plumbing, both inside and outside the houses, with proper and honest inspection, entirely solve the question of waste. This question of waste will be treated more fully later on.

In Glasgow there are about 4,000 meters in use. They are the Kennedy, Frost and Seimans and perhaps half a dozen Crown meters of the National Meter Company. The cost of meters in use is so much more than that of our meters as to be worthy of note. A three-quarter-inch meter of the kind in use costs

£7 10s., or about $37.50, while the Crown meter, which is an American make, is listed at £2 10s., or about $12. All meters are put on and owned by the city, the consumers having to pay a fixed rental for the same, which varies according to the size of the meter, a schedule of which is in Appendix A, Exhibit 2. In addition to this rental, all the work done and material, castings and fittings required for placing the meter must be paid for by the consumer. The meter always belongs to the city. The charge for water through meters, when furnished by gravitation supply, is £1 13s. 4d., or about $8.33 per 100,000 gallons. The same amount in New York would cost by meter $16, the minimum charge in Glasgow being £2 per annum, which must be paid at the end of the first quarter. For churches the minimum charge is £1 10s. per annum. Where the water is pumped the cost is £3 6s. 8d., or about $16.66 per 100,000 gallons; the minimum is £4.

The 4,000 meters are read once each month. Six inspectors or indicators are employed for this purpose, but are often detailed to clerical or other duties. There being so few meters they are necessarily placed at points long distances apart, some indeed being on farms "without the municipality." As a result of this the number of meters read per day is not large. The average is not much over thirty. I spent part of one day with an inspector reading meters, and in one street for a distance equal to about five of our avenue blocks there were eleven meters. The inspector said that in localities where they were so close (?) together they would read between 80 and 100 meters from 9.30 A. M. until 3.30 P. M. At 3.30 the inspector goes to the office and enters his day's reading in the office ledger, which takes him until 5 o'clock. The inspectors in New York read about thirty each day and do not make a single entry in the books. The number of working hours are the same. In Glasgow work begins at 9.30 and ends at 5, with half an hour for luncheon. In New York they begin half an hour earlier, quit at the same time, but take an hour for luncheon.

The meters are so placed as to be easily inspected, and where in danger of frost are carefully boxed, to prevent freezing. The meters are sealed with a wax seal in a manner similar to that adopted in New York. I was assured that they were never tampered with. Even the thought of such a thing as breaking the city's seal seemed to have a paralyzing effect upon the officials.

Of course, any one found breaking the seal would be most severely dealt with.

Waste is prevented, as said before, by careful attention to material and workmanship, together with careful, rigid and intelligent inspection of all plumbing inside and outside of houses. Where the service is metered the monthly inspection keeps that under control within the houses to a large extent.

The Deacon Waste-Detecting Meter system is being tested in certain districts, but has not yet been adopted. In that part of the report dealing with Liverpool and London I shall dwell more at length on this system.

All taps in mains not over one inch in size are screwed in instead of being driven in. This avoids the possibility of their splitting the main or becoming loose and thereby producing in their sum total an enormous waste. Where the tap required is more than one inch in size the distributing main is cut and a T is put in, having an opening of the size required. Of course, the water is shut off for the short time required to accomplish this, but advance notice is given all consumers thus affected, so there is little, if any, inconvenience. It will be observed from the above and the following regulations that at the present time every precaution is taken to prevent waste along the whole line from the time the water leaves Loch Katrine until it finds its legitimate outlet through the faucet; and the most striking feature of it all is that the effort is most intelligent and honest:

TERMS AND CONDITIONS OF SUPPLY.

1.—All Contracts shall be for one year from 28th May, and the charge made from that period. In the case of Premises unoccupied at that date, a ratable proportion will be charged from the time of entry.

2.—Occupiers of Premises for manufacturing, trade, or business purposes, using the Water, shall be charged in conformity with the foregoing Table.

3.—Premises which may, after the time of survey, be enlarged, or Water used for any other purpose than has been charged or paid for, shall be subject to an increased rate.

4.—The rates and charges made for Water supplied otherwise than by Meter, being payable in advance, must be paid on demand.

5.—Security for payment of rates and charges to be given to the Treasurer when required by him.

6.—Parties taking water, without agreement, shall be bound to pay such

rates and charges as the Corporation may fix, in addition to Penalties imposed by the Corporation Acts, or the Acts incorporated therewith.

7.—Before Water is turned on to any Premises, the Corporation, or their Engineer, must be satisfied respecting the fittings, and the mode of distributing the water through the Premises, so that it may, at all times, be easily measured by Meter, and any proposed alteration must be communicated to, and approved of, by the Corporation or their Engineer, before being executed.

8.—The Corporation will not be responsible in any way for, nor be bound to pay, any damage or loss which may be alleged to have arisen from interruptions of supply arising from accidents or causes beyond their control.

9.—No connection will be allowed to exist in any Premises between the pipes conveying Loch Katrine or Gorbals Water, and those conveying Water supplied or taken from any other source, nor must any such connection be made.

10.—Parties refusing or delaying to allow the Corporation Surveyor inspection of their Premises, when required, shall be liable to pay the full rates as estimated by him.

11.—Consumers of water beyond the limits of compulsory supply will be charged, in addition to the rates, one penny per pound on the full annual value of their Premises, and the same shall be included in, and paid along with, the account for supplies of Water for other than domestic purposes.

12.—In the event of the Water rates and charges not being paid as requested, the supply may at any time thereafter be stopped until payment be made, together with all expenses incurred, in terms of the Water Works Clauses Act, 1847 (10 Vict., cap. 17, sec. 74).

13.—The Corporation shall fix what Premises ought to be supplied with Water by Meter, and be entitled, at any time, to place a Meter temporarily within the Premises of any Consumer, to ascertain the quantity used.

14.—Meters will be provided and maintained in repair by the Corporation, at the charges specified in the Table of Rates, which charges shall be included in, and paid along with, the account for the first quarter. Meters must be properly protected by the Consumer, and in the event of their being damaged by frost, fire, or accident, the cost of repairing the same shall be paid by the Consumer. In the case of Meters supplying machinery propelled by Water, the expense of repairing any damage by way of burst, fracture, or otherwise, which may take place, together with the cost of repairing the same, or another Meter, shall also be paid by the Consumer, and every such Machine must have an Air Vessel and a Relief Valve attached to it at the expense of the Consumer, and which shall thereafter be maintained by him.

15.—The Corporation shall not be liable for any damage done by the bursting of, or leakage of Water, from any part of a Meter, to the Premises in which it is placed, or to the goods manufactured, stored, or kept in such Premises, unless such damage shall be proved to have arisen from, or been caused by, the fault or negligence of the Corporation or

their servants, or by some defect in the Meter patent at the time when the same was furnished to the Consumer.

16.—Should the Meter stop working, or fail to indicate the quantity of water consumed, the Consumer must give immediate notice thereof to the Engineer at the Corporation Water Office, and the quantity of water consumed during any period when a Meter may be out of order, shall be estimated and finally fixed by the Corporation from what they may consider to be the most reliable data at their command.

17.—No Meter shall be removed, or in any way disturbed, nor the seal broken, except in the presence or under the direction of an officer of the Corporation.

18.—All accounts for Water supplied by Meter shall be rendered, as nearly as practicable, quarterly, and must be paid on demand.

19.—The Corporation will provide all materials and execute all work necessary in connection with the introduction of Water to be supplied by Meter, up to the Meter, including pipes, in so far as the same consists of cast iron, and the whole cost therefor shall be charged against the Consumer, and paid on demand. When the supply is discontinued, intimation thereof must be given in writing to the Corporation by the Consumer, when the Meter will be removed.

RIVER SUPPLY WATER.

Additional Terms and Conditions.

1.—That the maximum supply per day be fixed in each case, and that the minimum be 6,000 gallons a day, equal to an annual payment of £14 3s. 5d., at 15s. per 100,000 gallons.

2.—That all the Water be discharged into cisterns, the height of which above the surface of the ground is to be fixed by the Engineer of the Corporation.

3.—That the flow in the cisterns be constant and regular, or at no time greater than will discharge the maximum day's supply in ten hours; and

4.—That the charge to the Consumer, in respect of the providing and maintenance of Meters, will be 10 per cent. per annum upon their cost.

The foregoing TABLE of RATES and CHARGES, TERMS and CONDITIONS of SUPPLY, will, upon being published in the manner required by the Corporation Water Acts, be held as agreed to by all concerned, and will form a CONTRACT between the Corporation and the Water Consumers, without further stipulations, and without prejudice to the whole Powers, Provisions, and Penalties contained in the "Glasgow Corporation Water Works Acts, 1855 to 1895."

BY ORDER,
J. D. MARWICK, Town-Clerk, Glasgow,
Secretary.

GLASGOW, 16*th May*, 1901.

To give a full description and explanation of the system of bookkeeping and accounts would be long, and difficult to understand. I have, therefore, adopted the course of giving you instead

sample pages of the entire system, together with all notices, demand notes, etc., which will be found in Appendix A, Exhibit 3. In the Appendix will also be found a complete balance sheet for the year ending 1901, which the Treasurer, Mr. Wilson, kindly gave me.

Under the system of rates, based upon the rental value and by special agreement, the amount of revenue outside of the meter account is absolutely known. It is known by the assessors, auditors and council, and any shortage must be accounted for. With monthly readings of meters there is always a means of detecting dishonesty or carelessness, and in practice the least suspicion is sufficient to cause an independent inspection by another branch of the department, and if there is any irregularity the guilty are severely punished. To a Scotchman, to be overtaken in a crime is in itself a severe punishment. I found the meter inspectors to be men of intelligence and ability. Their positions are permanent unless forfeited by incompetency or dishonesty. The municipality sprinkles all the streets when required without additional cost to the ratepayers. Besides this, the streets are regularly flushed and cleaned, the work being done at night.

All tramways and telephones are city property, and it may be of interest to New Yorkers to know that a telephone with unlimited calls costs the subscriber a sum equal to about $26.25 a year. The hotels furnish all their guests with telephone service within the municipality free of charge.

Much of the difference between our city government and that of Glasgow is the natural result of the different systems of fundamental law, which can be only hinted at here:

First. The Lord Provost or Mayor has no power of appointment or removal.

Second. He has no veto power over the action of the Council. His signature to resolutions, etc., of the Council is only a certificate that the proceedings were regular.

Third. He presides at the meetings of the Council and is a member of all the principal committees.

Fourth. The heads of departments and their subordinates are nominated by the Council Committee in charge of that department, and their appointment must be confirmed by the full Council.

To illustrate: The Council Committee on the Water Department consists of a member from each of the twenty-five wards, together with the Lord Provost, the Dean of the Guild and the Deacon Convener. This Committee is again divided into subcommittees, to which are assigned different branches of the Committee's work, as follows: Subcommittees on Works and Water Supply, Subcommittee on Finances, Subcommittee on Claims of Compensation for Lands and Damages, and Subcommittee on Appeals, but no expensive aqueduct commission.

The appointees of one Council cannot be removed by new Councils or otherwise, except for cause, which must be fully heard and proved. The election of the Council is therefore of the first and paramount importance. That this is recognized by the people is shown by the fine body of men who compose the Council. I would not, however, belittle the influence for good caused by the fact that women vote. By invitation of the Lord Provost I attended a meeting of the Council. The members were, without exception, men of affairs and of education and refinement. Several of the members were representatives of labor. I failed to see among them specimens of that type which is sometimes too numerous and popular in councils nearer home.

These Councilmen, like the Lord Provost, are elected for three years and serve without salary, the expenses incurred in investigations, visitations, etc., being defrayed by the city.

I must call attention to the beautiful and adequate municipal building in which all the departments are housed. I cannot describe it. It will be sufficient to say that it is one of the interesting sights of Glasgow, a visit to it being suggested by all tourists' guide-books. It is certainly very beautiful and complete.

I send you herewith copy of the Annual Report for the year ending May 31, 1902. Permit me to call attention to the minute detail in which everything is carried out. From it the ratepayer can see just what has been done with his money. It is so arranged that any one of ordinary intelligence can understand it.

The fiscal year ended the last of May, and this printed report was ready for distribution long before I reached Glasgow on September 1st.

I send you a copy of the Glasgow Corporation Water Works

Acts, which will bear close study. I may be permitted to refer to a few sections of the acts which are pertinent to the subject.

Where acts were passed to enlarge old or secure new works the Council were limited to a certain time in which to complete the work. This is not so strange to us as the fact that they always completed it in a shorter time. For instance, when artificial outlets to Loch Katrine were constructed, the limit of time was ten years. The work was completed in five years.

Where it was necessary to take land for public purposes the Council were given powers to take it by compulsory purchase. The section which follows this grant of power reads as follows:

> "The powers hereby granted for compulsory purchase of lands and other property shall not be exercised after three years from the passing of this act."

There are many acts, the purposes of which are to prevent waste. I will insert here but one section of an act, viz.:

> "If any apparatus shall be out of order the owner or occupier of the house or premises in or to which such apparatus is placed or attached shall be bound to make good and repair the same; and if such owner or occupier fail to make the requisite repairs within twenty-four hours after notice in writing so to do, the Commissioners (Council Committee) may by their engineer repair, renew and make water-tight all such apparatus; and the Commissioners shall be entitled to recover from the owner or occupier so failing the cost of such repair or renewal, together with any penalty which may have been incurred for wilful waste of water, or for suffering such apparatus to be out of repair, by summary application to the magistrates or sheriff in the same manner as provided by the recited acts, or any of them, with respect to the recovery of rates of supplies of water for purposes not domestic."

These are only mere samples of restrictive measures found in the acts. I am informed that these laws are strictly enforced.

Perhaps these measures, together with the inspection, testing, etc., of apparatus and fittings, will throw at least a little light upon the small per capita consumption.

Please bear in mind that the imperial gallon, which is 20 per cent. greater than our wine gallon, is referred to in this report, unless otherwise stated.

II.—LIVERPOOL.

WHAT I said in reference to the Glasgow system being so different from ours as to render comparison almost impossible applies with equal force to Liverpool. All powers are derived from Parliament, and the acts forming the basis of these powers are general. Special acts in conformity with general acts are passed for different municipalities, and the Councils have entire power under these acts, so it will not be necessary to dwell upon that phase. It will be well to remember, however, that neither the office of the Lord Mayor nor members of the Council are salaried. In Liverpool the Lord Mayor is allowed £2,000 for entertainment, which is less than half what he actually spends. The Council members are paid their actual expenses incurred in doing special examination or visiting work, and I notice in the papers that the number of "bumpers of champagne" consumed in these junketings is severely criticized for the benefit of the "rate-payer."

The Water Department of Liverpool is under direct charge of the Council Committee, whose acts must be confirmed by the full Council. As each Councilman is elected for three years, only one-third retiring each year, there is in that body a continuity that is most desirable.

The Lord Mayor having no power of appointment, the appointments of subordinates are made by the Council, and are for life. The subordinates, from the workingman to the head of the department, are either pensioned or superannuated.

The salaries are not as high for the same kind of work as those paid in New York. In the Engineering Department the Chief is paid £1,200, his assistant £500. Clerks are paid from £200 down to £70 and juniors as low as £37 3s. 10d.

However, I am sending you with this a book of nearly twenty-four hundred pages, containing the entire proceedings of the Council of Liverpool for the years 1900-1901, which, I am sure, will be of great interest and benefit. Permit me to call your attention to the minute details to which the receipt

and expenditure of moneys are carried out, and also to observe the system of accounts as appears herewith. I will give a few examples here:

"Cash Paid on Account of the Engineers' Department."

	£	s.	d.
Joseph Parry, M.J.C.E., Water Department, salary..	1,200	0	0
T. Duncanson, assistant	500	0	0
R. C. F. Annet, Chief Clerk and Superintendent of Water Charges	450	0	0
John Manson, clerk	200	0	0
W. W. Partington, clerk	160	0	0
G. T. Bleakinson, clerk	220	0	0
George Hayard, clerk	200	0	0
O. J. Manson, clerk	190	0	0
Thomas G. Plowden, clerk	170	0	0
James A. McGill, clerk, pensioned July 18th	98	7	8

[And so on down through the entire list of employees.]

Waste Water Inspection account, viz.:

	£	s.	d.
Salaries transferred from the Engineers' Department (proportion) folio 189	180	0	0
Wages account	2,987	2	9
Clothing	125	4	9
Sundry materials from stock	45	17	11
Traveling expenses	47	18	4
Printing and stationery	29	9	2
Disbursements	30	9	2
Portable covers	1	5	0
Cleaning watch (in meter)	0	5	6
Cycle	12	10	0
	£3,460	12	7

Meter test account:

	£	s.	d.
Wages account	179	2	9
Clothing	11	16	6
Sundry materials from stock	41	15	0
Disbursements	34	2	7
Traveling expenses	9	5	0
Cartage	7	14	8
Printing and stationery	48	14	2
Paving	1	1	2
	£333	11	10

It will not be necessary to give more examples, as you will have the entire report before you for examination.

The population of Liverpool is about 850,000. Merchants will say 1,000,000, but I cannot find the figures for it. The

municipal water-works are owned by the municipality and supply water to a population of over 250,000 outside the municipality. This the city is compelled to do by parliamentary acts. This outside population is made up of towns or villages along the course of the aqueduct and the country from which the water has been drawn. What follows refers to the city only.

The water is furnished from three sources: First, Lake Vyrnwy, which supplies over 45½ per cent.; second Rivington reservoirs, and third, wells, of which there are several. The water is filtered through sand and gravel beds, which cover 73 acres. The amount of water furnished the city for all purposes during the year 1901 was over nine and one-half billion gallons. The number of gallons per capita consumption per day for all purposes was 31.[176], of which 18.[082] is set down as for "domestic purposes, hotels, public houses, warehouses, offices, shops and all waste and leakage from public and private pipes and fittings."

The separating and giving the amount used for each and every purpose is intensely interesting, but I was inclined to doubt its accuracy and made a special study of how it was arrived at, and must admit that if there is no dishonesty or collusion between official and consumer and with a reasonable standard of efficiency it is approximately correct. The officials are surely sincere in their belief in its correctness. I am therefore of the belief that it is a perfectly honest endeavor to furnish a correct statement and is worthy of being imitated in New York.

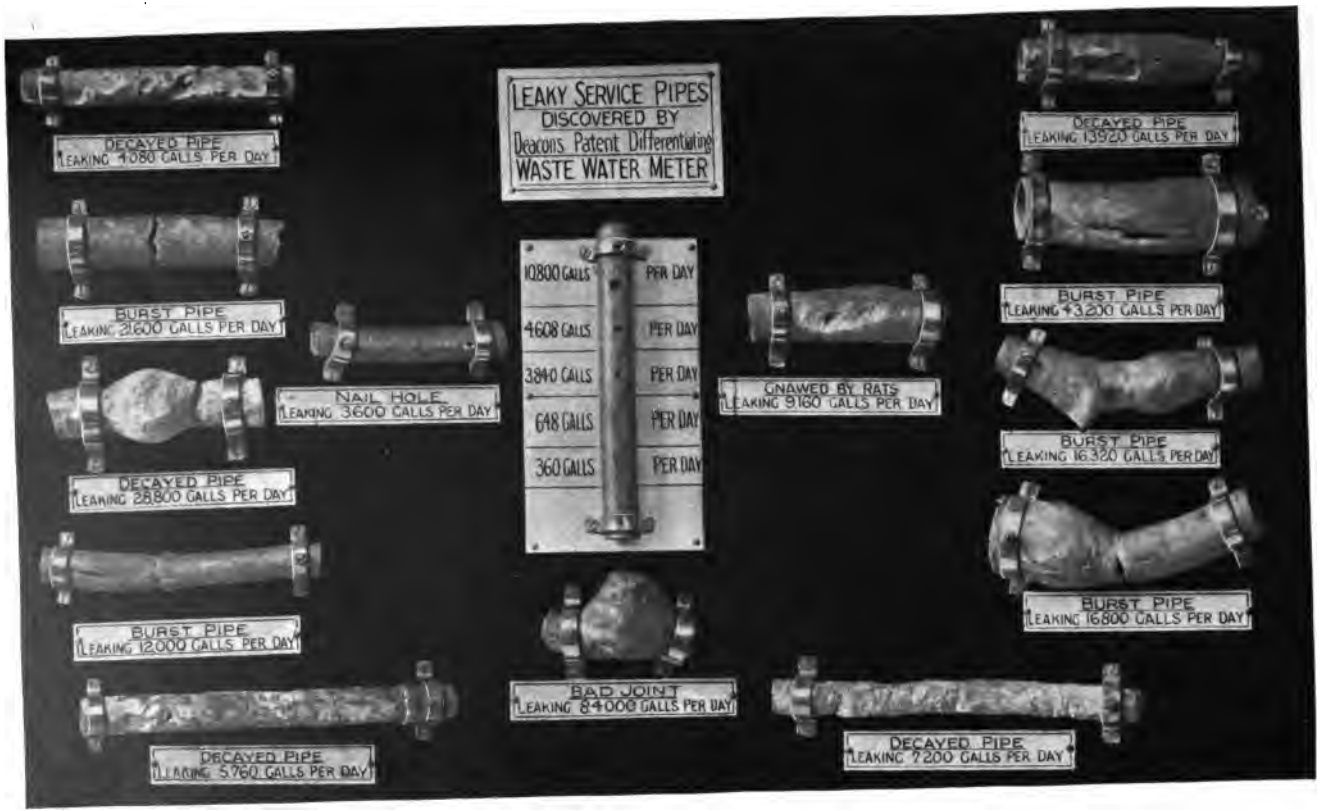
The daily consumption per capita being actually about one-fourth as much as in New York, we naturally look for a cause. I find that the supply is not limited in any way to consumers, day or night, throughout the year. In some localities the pressure is not sufficient at all hours to furnish all floors, but, as in New York, a tank is filled either when the pressure is on or by pumping. It remains that our actual consumption is more than four times as large, or the *actual* waste is enormous. The officials as well as business men here say our per capita consumption is ridiculous. When I look over the daily per capita consumption of all the cities of Great Britain and Ireland I find that not one reaches one-half that of New York, and I am not surprised at the conclusions of the officials. Liverpool has installed the

Deacon Waste-Detecting Meter System. I came, therefore, in contact with the Deacon people, and inclose some papers which they have furnished me, and give below a photograph of a number of defective pipes found by the Water Works Department through the use of the Deacon system. It will be seen that these few leaks represented a daily waste of nearly 200,000 gallons. This would be equal to 87,600,000 of our gallons per year. In proportion to the quantity of water consumed in New York it is small. But it must be remembered that the quantity above mentioned represents but twelve defective pipes, and was found on the introduction of the Deacon system. Suppose the number in New York City is thirty times that (which is a most conservative estimate), and we arrive at a greatly increased total, to which must be added the thousands of smaller leaks, all wasting quantities of water.

The engineer told me he was constantly decreasing the waste, and that there was a material decrease last year. The waste by this system is detected by night inspectors, who commence work at 12 o'clock and continue the remainder of the night. If they discover a leak in a main or service pipe it is located and immediately repaired. If it is located within a house it must be repaired at once or the water will be shut off. It is thought by the officials that the system, if properly installed and carefully and intelligently operated, would render it possible to stop approximately all waste. Liverpool does not encourage the meter system. There are less than 2,000 meters in use. Hotels are regarded as domestic in reference to water consumption and the amount is estimated. It is also estimated on other large consumers. It must be admitted that this is susceptible to very severe criticism, and justly so.

The charge for water by meter is 6d. per one thousand gallons, or about $12.50 for 16,000 cubic feet, against $16 for the same amount in New York. The meters are owned and put in by the city. An annual rental is charged the consumer for the use of the meter, which amounts to about 10 per cent. of the cost. The meters used are the same as in Glasgow, viz.: Kennedy, Kent Uniform and Frost. A few Crown meters are on trial.

I have found no engineer here but says that they do not regard any of the American-made meters as correct in


LEAKY SERVICE PIPES
DISCOVERED BY
Deacons Patent Differentiating
WASTE WATER METER
10800 GALLS PER DAY
4608 GALLS PER DAY
3840 GALLS PER DAY
648 GALLS PER DAY
360 GALLS PER DAY
DECAYED PIPE
LEAKING 1080 GALLS PER DAY
BURST PIPE
LEAKING 21600 GALLS PER DAY
NAIL HOLE
LEAKING 3600 GALLS PER DAY
DECAYED PIPE
LEAKING 28800 GALLS PER DAY
BURST PIPE
LEAKING 12000 GALLS PER DAY
DECAYED PIPE
LEAKING 5760 GALLS PER DAY
BAD JOINT
LEAKING 84000 GALLS PER DAY
GNAWED BY RATS
LEAKING 9160 GALLS PER DAY
DECAYED PIPE
LEAKING 13920 GALLS PER DAY
BURST PIPE
LEAKING 43200 GALLS PER DAY
BURST PIPE
LEAKING 16320 GALLS PER DAY
BURST PIPE
LEAKING 16800 GALLS PER DAY
DECAYED PIPE
LEAKING 7200 GALLS PER DAY

measuring. They all claim that a great deal more water will pass through the meter under certain circumstances than the meter will indicate, and therefore they hold on to the above meters, although very expensive, large and some very noisy, because they believe them to be the best. The meters are sealed with a wax seal similar to the New York system and have never been known to be tampered with. They are read or inspected once a month, the large ones once a week, and some daily. Under these circumstances it would be very difficult to tamper with them. Rents are paid quarterly, in advance, the first payment being an estimated amount, which must be paid before the water is turned on and is in the nature of a deposit, and remains as such while the meter is used.

All taps or service connections with mains are either screwed in, or if too large are put in by cutting the main and inserting a T, fastened with collars or rims. All is done by the city, and all plumbing in the house must pass the inspection and test of the engineer. I learned from good authority outside the department that formerly this inspection, for obvious reasons, had not been as carefully and honestly done as now. In other words, that human nature under similar conditions is very much the same wherever found. However, the methods of night inspection under the Deacon system and the house to house inspection is certainly productive of good results. There were 37,428 defects discovered last year, 556 of which were in the city pipes, 5,662 in private pipes, 16,334 in draw-off cocks, screw-down cocks, plug cocks and stand pipes and the balance in valves, ball cocks, etc. There were nearly 200,000 inspections made. I have given these figures in order to give you a better idea of what is meant by plumbing and waste inspection.

The regulations for plumbing, fittings, material, etc., are similar to those in Glasgow. In fact, it seems that all British cities copy Glasgow, and the officials are not reluctant to admit it, regarding it rather in the light of an indication of their progressiveness. I inclose a copy of the regulations.

The scale of water rates, other than metered water, as well as the general rates are given in Appendix B, Exhibit 1. There is a rate for the consumer and one also for the landlord where the rental is less than £13 and the amount is arranged by composition, a discount being given which varies on a fixed scale.

Schools are charged according to the number of scholars and churches and chapels pay either by a fixed minimum and maximum rate, or by special agreement. There is virtually no free water. The streets are sprinkled by the city, but the water is charged for. The number of gallons is determined by keeping a record of the carts filled each day. I asked if that was not taking money out of one pocket and putting it in the other. I was told that the accounts could not be kept straight and balanced in any other way. Further discussion on this point was not necessary.

In reference to the system of accounts I have pursued the same course as at Glasgow, and copies of blank bills and records, so far as I was able to obtain them, are in Appendix B, Exhibit 2. Collections are made by collectors, who, like most of the city employees, are under bond. They, however, have nothing to do with making up the accounts. That is done by clerks, who take the amounts from ledgers provided by the Surveyor. Of course, the collector must account for all his district. This system of outside collections was abolished in Glasgow, and I do not think it will last long here.

The maps of the Engineer were very complete and carefully made. For the purpose of making these maps the city is divided into districts, and each map has to do with a separate district. This gives sufficient space to put in everything required; in fact, everything pertaining to the water system. All mains are indicated with all the particulars connected with them, showing gates, valves, branches, etc., giving their exact size and location, so that if every one now in charge should leave the city, a perfect stranger, even if not an engineer, could fully control the entire system without inconvenience. This is equally true of all the cities visited. Of course, the use of the Deacon system above referred to, as well as the night inspection of valves, makes this necessary, and, in fact, would detect any valves or gates not indicated. This subject has been dwelt upon for the reason that it is one of the first things necessary if the effective control of waste is contemplated.

I have inserted in Appendix B, Exhibit 3, a copy of the Water Works Report of the Engineer for the year 1901, but have omitted the portion which deals with expert reports upon the cause and remedy for the peculiar deposits in the pipes conveying Vrynwy water before filtration.

Owing to the subsidence of the ground over the coal mines through which the aqueducts run, there is great difficulty in keeping the joints of the pipes from leaking. I asked the Engineer why not use flexible lead joints, and was rather laughed at for the suggestion, indicating that they had had some kind of experience in that line.

The total cost of the water works system was in 1901 £5,094,705 7s. 11d., and the gross revenue for the same year was £293,752 13s. 6d.

An interesting feature of the City Council is that the week previous to each meeting a "summons" is sent to each member giving a full list of all the proceedings, with full list of resolutions, etc. The Council meets at 11 o'clock, and luncheon is served in the City Hall to all the members. These city halls are fully equipped with kitchen, linen-room, dining-room and banquet hall and everything necessary.

When the Council meets each member is provided with an epitome of the proceedings of the committees and subcommittees. This paper can be had by any one who desires it.

These papers are inclosed to you, being too lengthy to put in the Appendix.

Please bear in mind that the imperial gallon, which is 20 per cent. greater than our wine gallon, is referred to in this report, unless otherwise stated.

III.—MANCHESTER.

THE general scheme of government in Manchester is the same as Liverpool and Glasgow, except that the Lord Mayor does not receive any compensation for his services or entertainment. He is provided with horses and carriage, office and stationery.

The Councilmen receive no salary except expenses incurred for special work or investigations. They are elected for three years, a third retiring each year. The Council elects a Board of Aldermen, either from its own members, or it may go outside and elect any one who would be eligible to be elected a Councilman. Aldermen are elected for six years.

The head of the Water Department and his subordinates are appointed by the Council at the instance of the Water Works Committee, and their positions are permanent.

Salaries are about the same as at Liverpool.

I must be permitted to say that the government of the city of Manchester is not excelled by that of Glasgow, Liverpool or Birmingham. It has municipalized the public necessities, except telephone, and will take that as soon as possible. However, the National Telephone people are very strong with Parliament and the Postmaster-General, and it may take years to accomplish it.

I cannot enter into a discussion or even description of the general government of Manchester. I can say, however, that it is progressive, and has the appearance of having forgotten the ways of its ancestors and is making the most of the present and is looking to the future.

It will be both interesting and beneficial to study carefully the printed matter and maps which are herewith inclosed. The dissimilarity in our systems will not permit their adoption, in fact, in New York, but many of the basic principles might find lodgment in our system, which would give most beneficial results.

The population dependent upon the Manchester corporation for a supply of water is about 1,100,000. This includes twenty-

four districts adjoining Manchester. The whole district covers an area of about ninety square miles.

All the water is furnished by gravity, no pumping being necessary. The old supply came from Longendale district, the drainage area of which covered 19,300 statute acres. This water is carried to service reservoirs about seven miles from the city and at an elevation ranging from 123 feet to 357 feet above the city. The storage capacity of these reservoirs is 5,985,000,000 gallons, which would supply the city for a period of 140 days, should there be no rainfall whatever during that period. Added to this is the new scheme which is called the "Thirlmere scheme." This draws the water from Lake Thirlmere, in Cumberland, which is ninety miles from the city. This is a large scheme, and when completed will have cost nearly £5,000,000, and will store a sufficient amount of water to supply the city for 160 days, so with the two schemes Manchester will store enough water supply for 300 days independent of any rainfall. The water is principally spring water and is not filtered. Before going into service it is passed through fine copper screens. All freshet water which is discolored and would have a tendency to destroy the purity of the supply is kept out of the reservoirs and basins, so that the water is always in good condition. In the old scheme this freshet water is carried into two reservoirs which supply water to mill owners in compensation for water taken away from them by reason of using the river supply or source.

The daily consumption amounts to 29 gallons per capita, 16 gallons for domestic purposes and 13 for trade. Consumers use all the water necessary day and night without restriction, with the single exception of last year before the Thirlmere scheme was in operation, the general supply was shut off from 8 P. M. until 5 A. M. for about eighteen weeks. This was caused by an unusual drought and because the new aqueducts from the old scheme were not completed and in operation. Such a thing cannot occur again in many years.

The per capita consumption is small here also. The Deacon system to detect waste is not used here. The Engineers claim that the ground being all of heavy clay any leaks in the mains would at once appear on the surface. This theory may be reasonably good where the soil conditions are like they are in Manchester. But in a city like New York, where the soil is for the

most part either sand or fissure rock, it will not answer at all, for the leaks that did not find their outlet into the sewers would find easy outlet in sand and fissure. It will be seen by a careful reading of the regulations which follow that few leaks are possible after the water enters the service pipes when it is considered that the regulations are strictly enforced. The city authorities are very strict and careful about the character of the work and quality of the materials furnished. It is done to last for all time. The regulation for internal water fittings I deem of sufficient importance to insert at length here.

WATERWORKS.—BYE-LAWS, REGULATIONS, OFFENSES AND MISCELLANEOUS PROVISIONS.

REGULATIONS AS TO INTERNAL WATER FITTINGS.

1896.

1. Persons requiring a supply of water must obtain from the authorized officer of the Waterworks Committee, instructions as to the proper point for the introduction of the water on to the premises. Such persons must, at their own cost, provide, lay down, and maintain all service pipes and fittings which may be required within their premises, also lay one foot of service pipe beyond the boundary thereof in order to enable the connection to be made with the main. In the case of supplies by meter, the Waterworks Committee will connect the meter to the service pipe at the cost of the consumer. (See Regulation No. 27.)

2. Printed forms will, upon application, be furnished to plumbers, which they must fill up and deliver at the Waterworks Office as a notice of the fittings being ready for inspection, and also of any alterations made in existing service pipes or fittings.

3. Before the connection for the supply of water can be made, or before any additional fittings can be connected to an existing service pipe, the work must be inspected and approved, and plumbers are especially warned not in any case to connect to a service pipe or a pipe laid for lime slaking, and thereby supply water to the premises, without first receiving written consent from the authorized officer of the Waterworks Committee. In case of neglect of this regulation, they will render themselves liable to the penalties comprised in the Waterworks Acts.

4. No premises will be allowed to have more than one service pipe, except by special arrangement.

5. None but wiped plumbing or other approved joints will be allowed on service pipes.

6. Service pipes must be laid three feet below the surface of the ground, and be brought out through the boundary of the premises three feet below the street level.

7. All service pipes up to 1¼-inch diameter must be of lead, unless

otherwise agreed upon by the Waterworks Committee, and are required to be of the following strength, viz.:—

½-inch	diameter	6lbs.	per lineal yard.
¾ "	"	9lbs.	" "
1 "	"	12lbs.	" "
1½ "	"	16lbs.	" "

Branch pipes ⅜-inch diameter must weigh not less than 5lbs. per lineal yard.

8. Dwelling-houses must be supplied by service pipes of the following diameters:—

½-inch:—

One house not exceeding £70 per annum.

4 houses	"	£16	" or 6/0 per week each.
6 "	"	£13	" or 5/0 "

¾-inch:—

One house from £70 to £150 per annum.

5 houses	not exceeding	£26	" or 10/0 per week each.
10 "	"	£19 10s.	" or 7/6 "
15 "	"	£16	" or 6/0 "

In the case of a house exceeding £150 per annum, or where the water main is situate a considerable distance from the house, information as to the size of pipe to be laid must be obtained from the principal inspector at the Waterworks Office.

The full diameter of service pipe must be continued through all houses supplied in block, and in houses supplied separately to the storage cistern or other point where the principal supply is required.

⅜-inch branches, if supplying only one tap or water-closet, will be allowed, but in other cases not less than ½-inch branches will be allowed.

Where dwelling-houses situated beyond the limits of the City are supplied together from one service pipe, the owner will be liable for the payment of the water rent.

The City comprises the following Districts:—Ardwick, Beswick, Blackley, Bradford, Cheetham, Chorlton-upon-Medlock, Clayton, Crumpsall, Harpurhey, Hulme, Kirkmanshulme, Manchester, Moston, Newton Heath, Openshaw, Rusholme, and West Gorton.

9. No taps are to be fixed unless they have been approved and stamped by the Waterworks Committee.

10. A stop-tap must be fixed on the service pipe inside the premises and as near to the boundary as possible, and when fixed in the ground, outside the building, the spindle of such tap must be lengthened so as to be brought within 9 inches of the surface of the ground and thus rendered easy of access in case of accident. A cast-iron guard-box must be placed over it to indicate its situation, which box must be inserted with cement into a flag or concrete block, 18 inches square and 3½ inches thick, so as to prevent its being removed. All stop-tap boxes must weigh not less than 14lbs., and have a lead plug inserted therein for stamping, as per pattern to be seen at the Stamping Office; and if intended to be fixed in an exposed situation where heavy weights will pass over them, it is recommended that the lids be made of malleable instead of cast iron.

Where more than one house is supplied from a service pipe a stop-tap must also be placed on each *branch* service pipe to all houses and premises that may be hereafter erected, for the purpose of turning off the supply of water in the event of burst pipes or accident, and also in all cases when, in future, water-closets are added to old properties.

11. All stop-taps fixed on service pipes, unless there is a direct waterway through the valve, must be of larger diameter than such pipes—for instance: ½-inch pipes must have ¾-inch stop-taps; ¾-inch pipes, 1-inch stop-taps; and 1-inch pipes, 1¼-inch stop-taps.

12. Plug taps are only allowed to be fixed on descending pipes from cisterns.

13. No taps intended for domestic supplies in dwelling-houses, or for drinking purposes in warehouses, will be allowed to be supplied from a cistern, but in all such cases draw-off taps must be fixed on the service pipe before it enters the cistern. Baths, water-closets, urinals, and wash basins are allowed to be supplied from a cistern.

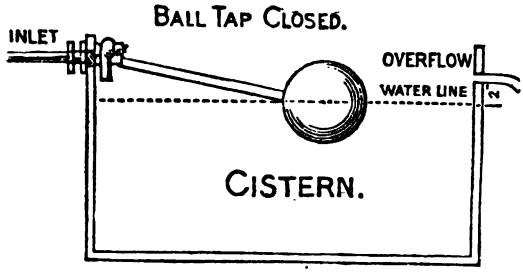
14. No water-closet will be allowed to be supplied direct from the service pipe, but must, subject to regulation No. 16, be provided with a cistern of approved pattern.

15. Regulation cisterns for water-closets must be constructed on one of the principles described on pages 835 and 836, or other approved pattern, and the pulls of cisterns must be so arranged as to prevent their being fixed in such position as will allow the water to be left running to waste.

16. In the case of meter supplies, regulation cisterns for water-closets may be dispensed with, and other cisterns if made of non-corrosive material adopted.

17. All descending or flush pipes to water-closets, from regulation or other cisterns, must not be less than 1¼-inch internal diameter, and the sockets or openings admitting the water to the basin of the closet must be sufficiently large to provide for the size of pipe adopted.

18. Storage cisterns must be provided with a ball tap, which must be connected with the inlet pipe as shown in the sketch below. The ball tap must be so fixed as not to become submerged when the cistern is full; and every cistern must be placed in such a position as to be easily accessible for inspection.



19. Storage systems in dwelling-houses must be constructed of slate, stone, iron, or other material approved by the Waterworks Committee.

20. No description of closed boiler will be allowed to be supplied direct from the service pipe, but a cistern must be provided in every case, and the supply taken therefrom.

21. Steam engine boilers, and all premises which are dependent on a continuous supply of water, must have a cistern provided to hold not less than half-a-day's supply—according to the usual average consumption. This is necessary in order to provide a supply of water in case of accidents to the mains or alterations and connections of service pipes.

22. No rain water will be allowed to flow into any cistern supplied with water by the Corporation except under special circumstances for trading purposes.

23. The overflow pipes of all cisterns must be made of lead, and must act as warning pipes, and be brought through the external wall or fixed in such other conspicuous position in the premises, with sufficient fall as may be directed; and the pipe must be of sufficient diameter to deliver any water wasting from the cistern.

24. Baths may be supplied direct from the service pipe or from a cistern, and every bath must be provided with a perfectly water-tight ground waste plug, with chain complete, or such waste tap as shall be approved and stamped.

25. No overflow pipes, other than such as are made to act as warning pipes, must be attached to any bath.

26. Urinals may either be supplied by a self-closing tap, of approved description, from the service pipe or from a urinal cistern of approved pattern; and in the case of meter supplies, a screw-down tap will be allowed.

27. The Waterworks Committee will provide and fix all water meters, and will lay the service pipe from the boundary of the premises to the inlet of the meter, and fix the stop tap, at the expense of the consumer.

28. The Waterworks Committee will consider any application for a supply of water to hydrants or fire cocks or fire sprinklers on private premises, or for permission to attach a stand pipe and hose to the street hydrants to be used in case of fire only.

29. Information from plumbers or other persons, as to any infringement of these regulations, will receive the immediate attention of the Waterworks Committee.

30. No deviation will be allowed from these regulations without the sanction of the Waterworks Committee, and any authorized plumber found lending his name to an unauthorized person will be struck off the list.

Testing and Stamping Regulations.

Stamping Office in the Basement of the Town Hall
(Entrance, Lloyd Street.)

The following regulations must be complied with:—

31. All taps and other water fittings before being fixed must be approved and stamped by the authorized officer of the Waterworks Committee.

32. All taps intended to be fixed on service pipes must be of sufficient weight and strength to resist a pressure of 300lbs. per square inch, and, with the exception of those specially allowed as per Regulation No. 26, must be on the screw-down principle, with loose valves and stuffing boxes.

33. Samples of taps and other fittings such as have been approved may be seen at the Stamping Office, but the Waterworks Committee will give due consideration to the claims of any other taps and fittings which may be presented for approval, and which, if considered satisfactory, will be stamped.

34. The diameter of the ball of full way ball taps for storage cisterns must be as under:—

2-inch	diameter of tap,	12-inch	diameter of ball.
1½ "	"	10 "	"
1¼ "	"	8 "	"
1 "	"	6 "	"
¾ "	"	5½ "	"
½ "	"	4½ "	"

35. The rods or spindles from such balls to the taps must be made of cold drawn copper, and be of such length as will, when the tap is inverted for testing, resist a pressure of 300lbs. per square inch, and the valve must be perfectly water-tight in every respect at that pressure.

36. Where a rapid flow of water is not necessary, direct acting ball taps, with restricted waterways, will be allowed if desired. In these cases the following regulations must be observed:—

1¼-inch	diameter	of	tap	must	have	⅝-inch	waterway.
1 "	"	"			½ "	"	
⅝ "	"	"			⅜ "	"	
½ "	"	"			⅛ "	"	

37. The diameter of the ball must be as under:—

1¼-inch	diameter	of	tap,	12	inch	diameter of ball.
1 "	"	"	"	8 "	"	"
⅝ "	"	"	"	7 "	"	"
½ "	"	"	"	4½ "	"	"

38. The rods or spindles from such balls to the taps must in all respects comply with the conditions of Regulation No. 35.

39. Ferrule taps for baths must weigh not less than 22½ ounces without the handle.

40. The following fees will be charged for testing and stamping:—

Bib and stop taps up to 1½-inch diameter	2d.	each.
Ball taps	3d.	"
Bib, stop, and ball taps 2 and 3 inches diameter	4d.	"
Ditto 4-inch diameter	6d.	"
Ditto 6-inch "	9d.	"
Ditto larger sizes	1s.	"
Water-closet cisterns	3d.	"
Stop-tap boxes	2d.	"

Cisterns for Water-closets.

41. Cisterns for water-closets must be constructed so as to make a continuous flow of water impossible; and so long as this condition is complied with may be on any approved principle.

42. Such cisterns must be made of non-corrosive material, and must have round corners inside, and taper so as to be 2 inches wider at the top than at the bottom as a protection against frost.

43. They must be provided with a ball tap connected with the inlet pipe, as shown on page 833, and which must also in all other respects comply with these regulations or other approved arrangement, and must have an overflow pipe fixed 1 inch above the water-level when the cistern contains 2½ gallons of water, and must have a flush-pipe of not less than 1¼-inch internal diameter.

44. All working parts must be made of non-corrosive metal, and the valves must have an india-rubber washer of the best quality not less than ⅛-inch thick, must be of sufficient weight to close quickly, and of sufficient diameter to insure a water-tight junction.

45. No cistern will be allowed that is not capable of being brought into action with an easy pull or drop of the lever.

46. In the case of syphon cisterns the discharge pipe, or under side of the syphon bend pipe, must not be less than ⅛-inch above the side of the cistern, so that in case of leakage from the ball-tap, while the cistern is not in action, the water will overflow the side of the cistern, and not go down the discharge pipe; but this must not in any way interfere with the existing regulations as to overflow pipes. There must be no connection with the cistern and discharge pipe other than the syphon, which must be capable of being brought into action when the water level is at least 1 inch below the overflow pipe. Other details as to construction, strength, and materials are to be subject to approval.

By order of the Waterworks Committee,

WM. HENRY TALBOT,
Town Clerk.

Town Hall, Manchester,
14th May, 1896.

NOTE.—Any authorized plumber who shall change his address is directed to sent particulars of such change to the Secretary, Waterworks Department, Town Hall, or his name will be omitted from the list subsequently printed.

It will be seen that the stop-cocks are put on all supply pipes outside the houses. This is for two purposes—one to render it possible to shut off the water to the house, if, for any reason, it is found necessary, and without tearing up the streets and ruining pavement. The other purpose is to give the night inspector the means of applying the stethescope to the valve of any supply pipe when the house is closed and no water being used to determine if water is running. Should there be any water running then the city proceeds under the act of 1867.

Valves in the supply mains are tested in the same way. A valve in the main is closed. Then the stethescope is applied to

see if the valve closes tight. Then the next valve above this is tested by the stethoscope. If the main is tight no water will pass through the valve, but should water pass through then there is a leak in the main and it must be located and stopped at once. Of course, to apply this system to New York would be very expensive at the outset, but I doubt if it would be more expensive than to furnish meters to every service pipe, and there can be no question but that it would give far more beneficial results—besides results that would be permanent. It would also put a stop to that endless and expensive nuisance of tearing up streets to shut off the water.

The power to enter the house and repair or take out plumbing is not intended to be oppressive, but to force consumers to keep the plumbing free from leaks, and it has produced practical and beneficial results.

The regulations for testing and stamping fittings, meters, etc., given above, are such as to be rather hard on the cheap speculative builder. It is an instance of the municipalization of public utilities carried to its legitimate and just termination.

Meters are not in general use, only about 7,000 being in service. The primary reason for their use seems to be to measure the water for the purpose of adjusting its cost. The waste is detected as above stated. The meters are the Kent, Kennedy and Frost. One American meter is being tested, but without any chance of its being adopted. Other meters of our make have failed to satisfy the engineers, who are of the opinion that none of our meters is accurate. My own experience with American meters is quite the opposite.

The inspectors make an average daily reading of sixty meters. This average includes the meters in the country districts located long distances apart.

The charge for water by meter is on a graduated scale, based upon the quantity consumed per quarter, and is paid quarterly. A copy of the scale of meter charges, together with the rate charges, are in Appendix C, Exhibit 1. It will be seen that the charge is much higher than in New York until the consumption reaches 900,000 gallons per quarter, when it is about the same; any quantity above that per quarter is cheaper than it is in New York.

All meters are set and owned by the city, a quarterly rent

being charged for their use, the rent of which is in the scale of charges above referred to.

Rates for unmetered water are graded on the rental value of the property, as in Glasgow, and by special agreement.

Before any one can obtain water from the city certain notices of intention must be filed, after which agreements are entered into between the city and the prospective consumer, and all the conditions therein stipulated must be fully complied with before the water is turned on. Blank forms of these notices and agreements, including the entire series, are exhibited in Appendix C, Exhibit 2.

The system of accounts is very complete. If these are studied carefully, together with the above agreements and notices and regulations, it will be found that they are such as to be worthy of most careful consideration. Copies of the demand notes for water rents, both rate and meter, will be found in Appendix C, Exhibit 3. However, the list of plumbers, together with the addresses of persons to whom information is to be given in case of fire, or accident to water pipes, on the back of each note, are omitted.

The system of accounts is such that the most ordinary person can fully understand it, not only in part, but throughout the whole. Exhibit 3 in Appendix C contains copies of the Ledger pages.

In large type across each demand note is the following: "Penalty for waste of water, £5 ($25) for each offense." This is, I am informed, enforced.

There is also in Appendix C, Exhibit 4, a copy of the Water Works Committee's report for the year ending March 31, 1902.

Please bear in mind that the imperial gallon, which is 20 per cent. greater than our wine gallon, is referred to in this report, unless otherwise stated.

IV.—BIRMINGHAM.

THE city government is so similar to the other English cities on which I report that I will not dwell upon it. The Lord Mayor has no more power; the departments are under the control of the Council, through its committees, who make all the appointments. The positions of subordinates and heads of departments are permanent, and a system of superannuation is provided for them. The members of the Council are elected for three years, a third retiring each year. It will be seen here that the idea of continuity is regarded as very important. The Lord Mayor is member of all committees. The Committee on Water has two subcommittees —one on Works, the other on Finance.

The city departments are not housed in one building as in the cities previously reported upon. The Water Department is quite a distance from the City Hall, in a small building.

The water-works are municipalized. The old companies were taken over in 1875.

The water has been supplied from deep wells and streams, but this source was found to be inadequate and a new and large scheme is now being carried out and is nearing completion. At a cost of over £3,000,000 the water is being brought from mid-Wales, a distance of about 100 miles. I did not visit these works, although most cordially invited to do so by the Lord Mayor. He, however, showed me large photographs of the entire works, from the source to the city. It is a gigantic scheme, and from all one could judge from pictures it is being built to last as long as the Houses of Parliament.

The corporation furnishes water to a population of about 800,000. The area supplied is 83,000 acres. In the old scheme the water had to be pumped, but in the new the supply will be by gravitation.

The total cost of the works up to May, 1902, was over £6,630,000. This will be found in the last annual report, a copy of a part of which is in Appendix D, Exhibit 1. You will observe in Plate O a statement of all the yearly expenditures from the

time the city took over the private companies in 1875 down to the present time. This statement is so segregated as to show the different purposes for which money was expended. I was unable to obtain any annual report of the Water Department of New York. I have before me a copy of a report for the quarter ending September 30, 1900, but there is no such statement to be found.

By reading the "By-Laws for Preventing Waste, Misuse, Undue Consumption or the Contamination of Water" which follow one can obtain a good idea of how the subject of waste is taken care of here. These by-laws aim to *prevent* waste, which is the surest remedy. One is impressed with the care that is taken to meet all possibilities of bad plumbing and poor fittings not only in Birmingham, but everywhere over here. There is no doubt but that if the same means of economy were employed in New York it would be productive of good results. Especially would this be so if drastic rules and regulations were formulated and given to consumers and then rigidly enforced, irrespective of any political or other kind of influence. While some of the regulations below may show a style of plumbing not up to date, it must be admitted that the main point is accomplished, and that the up-to-dateness of the plumbing does not enter into the question at all. If the by-laws are rigid now, where plumbing is simple in character, it must be admitted that were it more complicated and intricate the regulations would be correspondingly more thorough and rigid. In saying this I have in mind not only Birmingham, but the other foreign cities as well.

CITY OF BIRMINGHAM.

BYE-LAWS FOR PREVENTING WASTE, MISUSE, UNDUE CONSUMPTION, OR THE CONTAMINATION OF WATER, SUPPLIED BY THE CITY COUNCIL.

BOROUGH OF BIRMINGHAM.

At a Quarterly Meeting of the Council of this Borough, held pursuant to a Resolution of the Council fixing the same, and to Notice by the Mayor, on Tuesday, the 1st day of February, 1887, at Two o'clock in the afternoon, in the Council Chamber, at the Council House, for the transaction of general business.

THOMAS MARTINEAU, ESQ. (Mayor), in the chair.

It was Resolved—

14351. That for preventing the waste, misuse, undue consumption, or the contamination of the Water of the Corporation, this Council, by

virtue of the Birmingham Corporation (Consolidation) Act, 1883 (section 192), do hereby make the following Bye-Laws, to be observed by persons supplied with water, and pursuant to part 3 of the said section, do hereby direct a copy of the said Bye-Laws to be sent to the Local Board for the Manor of Aston, and the King's Norton Union Rural Sanitary Authority, and this Council further authorize and instruct the Water Committee to take all such measures in the name and on behalf of this Council, and where necessary under the Corporation Common Seal, as may be requisite for obtaining the confirmation of such Bye-laws by the Local Government Board, and for bringing the same into force within the district of the Corporation water supply.

BYE-LAWS

MADE BY THE MAYOR, ALDERMEN, AND BURGESSES OF THE BOROUGH OF BIRMINGHAM, ACTING BY THE COUNCIL, FOR PREVENTING WASTE, MISUSE, UNDUE CONSUMPTION, OR THE CONTAMINATION OF WATER SUPPLIED BY THE CORPORATION.

1. Throughout these bye-laws the expression "The Corporation" means the Mayor, Aldermen, and Burgesses of the Borough of Birmingham, acting by the Council, and the term "service pipe" means every pipe which extends from the district main or other supply pipe of the Corporation, and to which water is or can be supplied at the same pressure as the water in the district mains or other supply pipes of the Corporation.

2. No person shall use for the supply of the water of the Corporation to any part of any premises any fittings which have not been tested or stamped by the Corporation.

3. Any person who shall fix or fit on any premises a pipe which is intended to be used for carrying, delivering, or receiving the water of the Corporation, shall cause such pipe to be either of cast-iron or of lead.

4. No person, except as is hereinafter provided, shall fix or fit on any premises a lead pipe which may be intended to be used for carrying, delivering, or receiving the water of the Corporation, unless the same shall be of equal thickness throughout, and of at least the weights following, that is to say:—

Internal diameter of pipe in inches.	Weight of pipe in lbs. per lineal yard.
½ in.	7 lbs.
¾ "	10 "
1 "	12 "
1¼ "	16 "
1½ "	19 "
2 "	24 "

and no pipe shall have a less internal diameter than half an inch.

Provided always that "warning pipes" and other pipes of which the ends are open, so that such pipes cannot remain charged with water, may be of the following minimum weights, that is to say:—

Internal diameter of pipe in inches.	Weight of pipe in lbs. per lineal yard.
½ in.	3 lbs.
¾ "	5 "
1 "	7 "

Provided also that every "down pipe" hereafter fixed for the discharge of water into the pan or basin of any water-closet shall have an internal diameter of not less than one inch and a quarter, and shall weigh not less than nine pounds to every lineal yard.

5. A person who shall fix or fit on any premises a tap under direct pressure from the district mains (except a self-closing tap) shall cause such tap to be on the screw principle, and so that the diameter of the orifice on the seat of which the valves work shall be of the same size as the inlet to the tap.

6. A person who shall fix or fit a tap on any premises in connection with any pipe that may be intended to be used for carrying, delivering, or receiving the water of the Corporation, shall cause such tap to be capable of resisting a pressure of at least 300 lbs. to the square inch.

7. A person who shall lay or fix on any premises a service pipe shall cause a screw stop cock, with fixed valve, to be placed on such pipe, and such stop cock shall be covered with a proper cast-iron guard box.

8. A person who shall lay or fix on any premises a pipe that may be intended to be used for carrying, delivering, or receiving the water of the Corporation, shall cause such pipe, when laid in open ground, to be laid at least 2 feet 6 inches below the surface, and in every exposed situation to be properly protected against the effects of frost.

9. A person who shall lay or fix or cause to be laid or fixed on any premises a lead pipe that may be intended to be used for carrying, delivering, or receiving the water of the Corporation, shall cause every joint in such pipe to be made in the method known as "a wiped joint."

10. Every person who shall be supplied with water by the Corporation shall observe the following regulations:—

(1.) He shall not lay or cause to be laid more than one service pipe from the mains of the Corporation to the house or premises intended to be so supplied with water.

(2.) He shall not make or allow to be made any connection between such service pipe and the service pipe or pipes of any other house or premises.

Provided that in case of a group or block of houses belonging to one person, and the water rents of which are paid by him, such person may lay or cause to be laid one or more sufficient service pipe or pipes to such group or block.

11. A person who shall lay or fix or cause to be laid or fixed a tap to any stand-pipe from which a supply of water to more than one house is intended to be obtained, shall cause such tap to be a self-closing tap.

12. Every person who shall fix or caused to be fixed a cistern, which shall be intended to be supplied with water by the Corporation, for the service of any closet or urinal, shall cause such cistern to be a double-valve or syphon cistern.

13. A person who shall fix or fit on any premises a cistern that may be intended to be used for receiving the water of the Corporation, or a bath or lavatory, shall not cause any overflow or waste pipe other than a warning pipe to be attached to such cistern, bath, or lavatory. He shall cause such "warning-pipe" to be placed in such a situation as will

admit of the discharge of the water from such "warning-pipe" being readily ascertained by the officers of the Corporation.

14. A person who shall fix or fit on any premises a bath or a hot water apparatus that may be intended to be used for receiving the water of the Corporation, shall comply with the following regulations, that is to say:—

(1.) For the supply of baths a cold water cistern, containing at least 60 gallons, must be provided.

(2.) The same 60-gallon cistern may be used to supply a hot water apparatus, but the cold water supply to the bath must, in that case, be connected to the cistern at a point not below one-half the depth of the cistern.

(3.) The feed cistern to the hot water circulating cistern, or apparatus, must be fixed at a lower level than the bottom of the said 60-gallon cold water cistern, and must be fed from the bottom of the said cold water cistern. Or when the hot water apparatus is carried out upon the cylinder system, the bottom of the aforesaid 60-gallon cold water cistern may be connected directly to the hot water cylinder, but all hot water draw-off pipes must be connected at or above the top of the hot water cylinder.

(4.) All cylinders, if not of copper, must be of wrought-iron plates, not less than $\frac{1}{8}$-inch thick, galvanized, and must contain at least 50 gallons.

(5.) Hot water circulating cisterns not under pressure must be of at least 1-16 wrought-iron sheet galvanized.

(6.) Circulating or supply pipes for hot water may be either of lead, iron, or copper. If of iron they must be "steam tubes," galvanized.

(7.) Water to baths must not be supplied through an emptying pipe, but by a separate pipe not less than 6 inches above the bottom of the bath or over the top of the bath.

15. A person who shall fix or fit on any premises any water-closet or urinal apparatus that may be intended to be used for receiving or delivering the water of the Corporation shall comply with the following regulations, that is to say:—

(1.) Every water-closet cistern other than a double valve cistern shall have an efficient waste-preventing apparatus so constructed as not to be capable of discharging more than two gallons of water at each flush; and every water-closet cistern being a double valve cistern shall have an efficient waste-preventing apparatus so constructed as not to be capable of discharging more than three gallons of water at each flush. This regulation shall apply only to cisterns of every water-closet used in respect of a single or separate house or building.

(2.) Every urinal cistern, other than public urinal cistern or cisterns having attached to them a self-closing apparatus, shall have an efficient "waste-preventing apparatus" so constructed as to be capable of discharging not more than one gallon of water at each flush.

(3.) No pipe by which water is supplied to any water-closet

shall communicate with any part of such water-closet or with any apparatus connected therewith except the service cistern thereof.

16. A person shall not cause or suffer a cistern buried or excavated in the ground to be used for the storage or reception of water supplied by the Corporation.

17. A person who lays, fixes, or fits on any premises a service pipe, which is intended to be used for carrying, delivering, or receiving the water of the Corporation, shall not, except in such cases as are hereinafter specified, cause such pipe to be laid or fixed through, in, or into any drain, ashpit, sink, manure hole, or through, in, or into any place where the water conveyed through such pipe may be liable to become fouled, except where such drain, ashpit, sink, or manure hole, or other such place shall be in the unavoidable course of such pipe, and then in every such case such pipe shall be passed through an exterior cast-iron pipe or jacket of sufficient length and strength, and of such construction as to afford due protection to the water pipe.

18. A person who fixes on any premises a tap or other fitting, in connection with any pipe or cistern that may be intended to be used for carrying, delivering, or receiving the water of the Corporation, shall comply with the following regulations, that is to say:—

(1.) All bib taps must be of not less than the following average weights, without bosses, viz.:—

1½ inch bib taps	113 oz.,	stop taps,	113 oz.
1¼ " "	79 "	"	79 "
1 " "	39 "	"	41 "
¾ " "	25 "	"	27 "
½ " "	14 "	"	16 "

(2.) Ball taps must be of the following minimum weight exclusive of the weight of the balls and spindles:—

Diameter of Tap.	Minimum Weight.
1 inch	20 oz.
¾ "	13 "
½ "	9 "

(3.) The diameter of the tap and ball in ball taps shall be as follows:—

Diameter of Tap.	Minimum Diameter of Ball.
1 inch	6 inches.
¾ "	5½ "
½ "	4½ "

(4.) The rods or spindles from the balls to the taps must not be less than the following lengths and sizes:—

Diameter of Tap.	Length of Rod.	Size of Rod. End next to Tap.	End next to Ball.
1 inch	13 inches	$\frac{14}{32}$ by $\frac{8}{32}$ inch	$\frac{10}{32}$ by $\frac{7}{32}$ inch.
¾ "	13 "	$\frac{12}{32}$ " $\frac{7}{32}$ "	$\frac{10}{32}$ " $\frac{7}{32}$ "
½ "	11 "	$\frac{12}{32}$ " $\frac{6}{32}$ "	$\frac{10}{32}$ " $\frac{4}{32}$ "
⅜ "	11 "	$\frac{12}{32}$ " $\frac{6}{32}$ "	$\frac{10}{32}$ " $\frac{4}{32}$ "

The rods or spindles referred to above may be of the following strength in lieu of those stated, viz., 4-10 by 2-10 inch.

19. Every person who shall offend against any of the foregoing bye-laws shall be liable for every such offence to a penalty of Five Pounds, and in the case of a continuing offence to a further penalty of Forty Shillings for each day after written notice of the offence from the Corporation.

Provided, nevertheless, that the justices or court before whom any complaint may be made or any proceedings may be taken in respect of any such offence may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this bye-law.

E. O. SMITH,
Town Clerk. [SEAL.]

Allowed by the Local Government Board this
Eleventh day of May, 1887. [SEAL.]

CHARLES T. RITCHIE,
President.

HUGH OWEN,
Secretary.

To detect waste, which unavoidably does occur in the face of all these precautions, a house to house inspection is made at night every six months, together with a general inspection of all tap-valves, both in mains and supplies. Of course, to make this proper valves must be placed on service pipes near the boundaries of the premises, and mains must be fully supplied with valves. The Deacon Waste-Detecting Meter is being experimented with, but is not yet generally adopted.

The rules of the department to prevent waste are printed on the bill or demand note, a copy of which is in Appendix D, Exhibit 7.

If waste is discovered in any building a notice is sent to the consumer or the owner of the building, as the case may be, stating that waste is going on in certain described fittings and directing that the fittings be repaired within three days from service of the notice, referring to the by-laws. If the repair is not made a second notice is sent, giving another three days' notice, and including a copy of the Water Works Clause Act, which will be found herein. If this is not effective a third and final notice is sent, giving forty-eight hours to make the repairs and stating that in default of observing the requirements of the notice proceedings will be taken in pursuance to the Water Works Clause Acts. So in eight or ten days from the discovery of the waste complete repairs must be made. Forms of notices of waste of

water and requests and orders to stop the same are given in Appendix D, Exhibit 2.

In order to secure a water supply the consumer must make an application, giving full particulars, as will be seen in Appendix D, Exhibit 3. This is sufficient for domestic supplies for single houses. In all other cases a special agreement must be entered into.

When a meter is placed an agreement must be entered into. I will not dwell upon the contents of the agreement, as it will be found in Appendix D, Exhibit 4. It will, however, be necessary to explain that there are two forms of agreements for use of meters, one to take a supply for domestic and correlated purposes and the other for a supply for *other* than domestic purposes only. They are identical, with the exception of the manner of charges. In Appendix D, Exhibit 4, is given one of the forms, together with the charges, referred to in both agreements.

The daily per capita consumption is less than twenty-four gallons, with constant and unrestricted use. No taps are less than one-half inch. The argument of small taps will not account for the small consumption as compared with New York. The means for using water in many other respects are not as extensive, yet this cannot account for the difference in quantity consumed. Besides, if there is any place in the world where water is needed and used for cleanliness it is in Birmingham.

It is regarded by the Engineers as pure waste to use more than three and one-half of our gallons for flushing water closets, while in New York from six to eight gallons are used. But all these things will not account for the large difference, especially when it is considered that here much more water is used for cleaning streets than is used for the same purpose in New York.

All taps are screwed in the main by the use of the Penny Patent. Except where the tap is large the main is cut and a T inserted with ferrule.

Less than 4,000 meters are in use. They are the Kennedy, Kent, Frost and a few Seimans. They are inspected or read every month, and the Engineer's workmen check up these readings as often as it is found necessary. Occasionally an inspector is found guessing at readings, but the system of checking renders it very dangerous business. The meters are necessarily far apart, many in the country districts, yet the daily

average of readings is forty-three. The salaries of the inspectors are about $420 a year, as compared with over $900 for the same kind of work in New York. Clerks in the department are paid from £100 to £150 per year.

The charge for water through meters is on a graduated scale. For small consumption the price per quarter is very high, higher than in New York, until the consumption reaches over 1,000,000 gallons per quarter. A copy of the scale of charges is in Appendix D, Exhibit 5.

As will be seen from what has preceded, the city has entire charge and control of the meters and no one can interfere with them.

For unmetered water there are two scales of charges, both based upon the rental value of the property where the water is consumed, which appear in Appendix D, Exhibit 6. One is for the consumer or tenant, the other for the landlord. He can agree with the city on this scale if he likes and get the benefit of a discount, but in that case he must pay the amount agreed upon whether the premises are occupied or not. Under the scale for the consumer there is no charge when the house is unoccupied.

The system of accounts is similar to those already given. In Appendix D, Exhibit 7, will be found as many documents outlining the system as I could obtain, together with copies of demand notes, notices, etc. However, what is missing will be found to a large extent in the annual report of the Water Committee which accompanies this.

I am sending you also full minutes of the proceedings of the Council from November 9, 1900, to October 22, 1901. A careful perusal thereof will give a good understanding of the workings of the municipal government, and, besides, will show how minutely all details are set forth, so that everything can be understood.

All rents are paid quarterly to collectors.

Please bear in mind that the imperial gallon, which is 20 per cent. greater than our wine gallon, is referred to in this report, unless otherwise stated.

V.—LONDON.

LONDON as a municipality and Water London are not the same. Water London includes the municipality and also a number of villages in the suburbs and along the rivers from which the water is taken. In 1901 the population of Water London was estimated at 6,850,700, while London's population was 4,813,170.

The municipality does not own the Water Works, but by the authority given it by Acts of Parliament it exercises a great control over them.

The Water Works are owned and operated by eight different companies. Each company is required to pay to the City Chamberlain a certain amount each year, and with this he is required to purchase stock or shares of the several companies which the companies must sell, with exception of a few stocks and debentures which are not subject to this provision. He holds them as trustee to form a sinking fund for the ultimate extinction of their capital when the entire plants of these companies will become the properties of the city.

I give below the eight companies which furnish water to the city, together with the approximate number of gallons furnished by each in 1900, viz.:

Chelsea Company	4	billion	gallons
East London Company.....	15	"	"
Grand Junction Company.....	7	"	"
Kent Company	6	"	"
Lambeth Company	9	"	"
New River Company.....	14	"	"
Southwark & Vauxhall Company...	11	"	"
West Middlesex Company.....	7	"	"

Seven of the companies obtain their supply from the rivers Thames and Lea almost entirely. One or two obtain some water from wells. This river water is pumped or taken directly to reservoirs and then to the filter beds and filtered through sand and gravel and then pumped into the supply reservoirs and mains, which deliver it to the consumers. All the water taken

from the rivers is filtered. I visited the filter beds and pumping station of the East London Company and examined them as far as I was able. It would be rather long to describe the mode of filtration and might not be interesting. However, if the Croton water were properly filtered it would be superior to any water I have yet seen.

The water from the Kent Company is not filtered, as it is all well water. The formation of the valleys where the wells are sunk is such as to hold water supplied to it by rainfalls. In fact, in most of England this condition prevails, and always, as in this district, where the formation is chalk or green sand. It thus naturally follows that all the water furnished to London is very hard, carrying considerable lime.

The power or right to take water from the rivers is obtained partly by Acts of Parliament and partly by agreements with the Conservator of the river. It is definitely regulated how much water can be abstracted in the different seasons of the year, a description or account of which would not be interesting and in itself would be rather meaningless.

In 1900 the total amount of water supplied daily by all the companies was 212,048,629 gallons, or about 254,328,350 wine gallons. The population supplied was over 6,100,000, representing a daily per capita consumption of a little over 34½ gallons, or about 41½ wine gallons. This was a decrease from the previous year, although the area of constant supply was largely increased. The companies do not all have the same daily per capita consumption, as the table which follows will show:

East London Company.....	30.61	Imperial	gallons
New River Company.....	31.95	"	"
Southwark & Vauxhall Company	38.95	"	"
Lambeth Company	35.33	"	"
West Middlesex Company....	33.51	"	"
Kent Company	31.47	"	"
Grand Junction Company.....	46.35	"	"
Chelsea Company	44.95	"	"

It will be seen from the table which follows that the daily per capita consumption increases, with slight exceptions, as the number of persons supplied decreases:

East London Company,	population	supplied..	1,396,390
New River Company,	"	" ..	1,245,115
Southwark & Vauxhall Company,	"	" ..	837,207

Lambeth Company,	population	supplied..	740,919
West Middlesex Company,	"	" ..	638,938
Kent Company,	"	" ..	582,066
Grand Junction Company,	"	" ..	437,387
Chelsea Company,	"	" ..	287,474

The companies furnishing the highest and lowest per capita consumption gave virtually constant supply to the consumers and may be taken as giving the two extremes. Of course, the difference in the population and character of districts supplied will account for some of this, but the main reason will be found in the detection and stoppage of waste, which will be treated more fully further on. A comparison of the total daily consumption of the 6,100,000 people here with that of the population of New York produces most interesting results. To furnish 6,100,000 people with water at the daily per capita rate said to be consumed in Manhattan and the Bronx would require over 900,000,000 gallons daily, whereas, the amount supplied by the London companies is about 254,000,000 gallons.

Above I spoke of constant supply and partial or intermittent supply. We have all heard a great deal about this, and many of us have the impression that there are only certain hours in which Londoners can obtain water, and this was always used to explain, partially at least, the difference between the consumption in New York and London. The supply is now practically constant all over London. In 1900, before the communication between the mains of the different companies was made, the percentage of constant supply was as follows, viz.:

Chelsea Company	100	per	cent.
East London Company.....	99	"	"
Lambeth Company	76	"	"
New River Company.....	95	"	"
Southwark & Vauxhall Company.....	93	"	"
West Middlesex Company.....	98	"	"
Grand Junction Company.....	100	"	"
Kent Company	99	"	"
Total	95	"	"

Since then East London Company and Kent Company have given constant supply and the other companies have increased the percentage of constant supply. When the system of intercommunication between the companies before referred to is complete, there will be no part of London without constant supply. London, however, is not so lavish in the use of water as

we are in some particulars, while in others she exceeds us. There are not so many bath-tubs in private residences. The custom of using pans still exists. There is a great difference between the quantity of water required by that method and that in use in New York of using large stationary bath-tubs. The water-closet flush cisterns are not so large. They do not hold more than three gallons as a maximum, while most are only of two gallons capacity. More than this quantity is regarded by the engineers as wilful waste. On the other hand, London uses a great deal more water on her streets. One night while making an all-night inspection with the representatives of one of the companies I noticed the following: Between 12 and 1 o'clock the street-sprinkling carts came through the streets and thoroughly wet them. After the sprinklers the horse sweepers came and swept the streets, and this was followed by the men and carts gathering the dirt and taking it away. This was in a poor district. In the more prominent streets the hose is used and the streets thoroughly flushed and washed, so that by 4 or 5 in the morning the work is all done. The streets were cleaned and moist and no dirt collector or sweeper was befouling one's hat and clothes as he proceeded to his business in the morning.

The total amount of money expended by all the companies up to December 31, 1900, was £18,889,969, or about $94,000,000, while the total net revenue from all the companies for the same year was £3,344,847, or about $16,700,000. It must not be understood that the amount expended and the capital or shares, together with the debentures, are the same.

The total amount of expense for maintenance and pumping was £432,055, or a little more than $2,000,000.

The charge for water is based on the rental value of the property and is paid by the consumer. Meters are used to some extent. The Grand Junction Company supplies about 20 per cent. through meters, now having in all 1,776 meters in a population of 460,000. The meters used are the Kennedy, Frost, Kent and Seimans. The Chief Engineer of one of the companies said he would like to put more meters on simply to force the consumers to be their own waste detectors. He would allow each house a certain amount per capita at a fixed regular price, based upon the rental value of the property, and charge by meter the consumption in excess of that quantity. Something like this

was rendered necessary by reason of the bad plumbing and materials used in the houses over which the companies had very little control. House inspection for waste is permitted and the companies make inspections wherever leaks are suspected. Waste seems to be one of the things that requires and receives very great attention. It is difficult for the companies to secure any increased powers from Parliament in the direction of increasing their supply, and besides it is found more economical to discover and prevent waste than it is to increase the plant and let the waste go on, the companies being dividend-paying corporations.

The means employed to detect waste are mainly two, viz.: Night inspection of all valves when the houses are closed and no water is being used, and the use of the Deacon Waste-Detecting Meter System. All companies have adopted this system but the West Middlesex Company and have it in use to a greater or less extent and are constantly extending it. That the companies believe in this system there can be no doubt. The Grand Junction Company in one district of its territory discovered leaks by use of this system, which, when stopped, caused the daily consumption to fall 800,000 gallons, or about 960,000 wine gallons. In the suburban town of Ealing, which contains a population of 25,000, the daily per capita consumption was reduced from 35 gallons to 25 in less than eight weeks. This was a reduction of 250,000 gallons, or 300,000 wine gallons daily. If the same per capita waste were going on in a city of 3,500,000 population, it would amount to over 42,000,000 gallons daily, or over 15,000,000,000 per year. In addition, one must consider the further possibilities of waste in a daily consumption of 150 gallons per capita. I will give an instance to illustrate what might occur. In one district it was found that when all the houses were shut off water was still pouring through the main. That section of the main was uncovered to find the waste, and it proved to be a one-inch lead supply pipe which had been abandoned. The end had been jammed, but had corroded and opened to nearly its full capacity. The East London Company could not by any possibility furnish a constant supply to its consumers if the waste were not taken care of and stopped. It adopted the Deacon system, and with it has controlled the waste to such an extent as to be able to give a constant supply, and I was told by one of the employees

at the office that if the company had not adopted some method of detecting and stopping waste it would have been nearly, if not entirely ruined. I quote below from a letter I received from the Engineer-in-Chief, which adds in a very forcible manner to what has been said above.

Referring again to the Grand Junction Company, I stated in the beginning that its average daily per capita consumption was 46.75 imperial, or about 56 wine gallons for the year 1900. Mr. Hunter informed me that now the daily per capita consumption is only 34.80 imperial, or about 45.7 wine gallons. At both periods there was a constant supply to all consumers, but in the last two years the system of detecting and stopping waste has been extended. It was his opinion that were the system extended over the entire district the daily per capita consumption would be reduced to below 30 gallons. This company is paying particular attention to all fittings outside the premises or houses. In none of the companies are the taps or private connection with the main driven in. In the more recent connections of houses with the mains two valves are used on the supply pipe, one just outside the premises, mostly under the sidewalk, and the other inside the house close to where the supply pipe enters the wall. By means of the outside valve the night inspector can determine by the use of his sounding-rod whether any leak is letting water escape in the house. This is done in the dead of the night when the house is dark and everything quiet. By shutting off all these outside valves it can be ascertained, by placing the sounding-rod on a valve of the supply main, whether there is any leak in the supply main. By continuing this system of night inspection through all the mains, including the principal mains, all leaks can be discovered.

The West Middlesex Company does not use the Deacon System, but carries on a very rigorous inspection of fittings and plumbing, which is done at certain periods. For these inspections a force of fifty-five inspectors are constantly at work, besides a number of turncocks, who are detailed at times to assist. In 1900 they made 208,760 inspections and discovered 37,084 houses with defective plumbing and therefore leakage.

On the night of September 23d I went with the night inspectors of the Grand Junction Company over one of the Deacon Meter districts. This district was in a part of London which is occupied by the poorer classes, and shops and

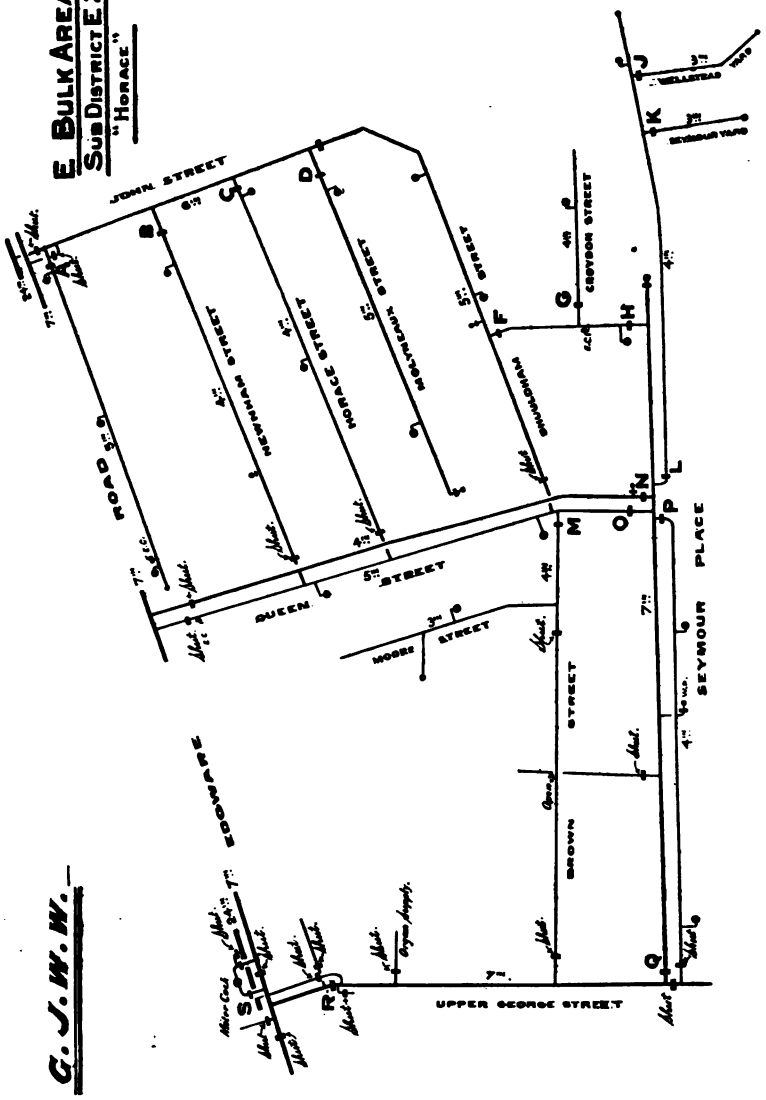
mews. They commenced work at a little after 12 o'clock and went over the entire district, finishing about 3 o'clock in the morning. On the print which follows it will be observed that all the water for this district passes through the Deacon Meter at "Meter Cock" near letter "S." At the time of the examination the main is shut off, so that no water can pass through the meter, except what supplies the pipes in the district to be examined. Then the time is noted and the valve at "A" on John street is shut off and in every five minutes a valve is shut off until all are shut off. I said every five minutes. I should have said not less than five minutes apart. This is to give the clock-work in the meter time to mark a line, indicating the flow. The table below will show just how much water was going to waste in each street between 12 and 3 o'clock, as all the houses were closed and dark. It will be observed that when valve "A" was closed the flow remained the same. In other words, there were no leaks in the houses or in the main controlled by that valve. But when valve "B" was shut the flow dropped 250 gallons per hour. Before the valve was closed we could hear the water passing through by placing the sounding-rod on the valve, and we went through the street and found all houses closed and dark and could hear no flow of water in the houses. A house-to-house inspection will be made in this street to locate the waste. Failing to find it in the houses, it will be located in the main and stopped. This instance will be sufficient to illustrate the result of the night-work. Of course, as soon as the district has been gone over the valves are all opened and the water flows as before, waste and all. This district had not been inspected since last February, when leaks were stopped, and in September it was wasting between 2,000 and 3,000 gallons per hour. I might add that we found three or four places in that dead hour of the night where we could hear the water running in the houses. In one the tanks, such as we have in New York, were overflowing and making considerable noise.

The following is a record of the district examined:

A,	valve	shut off.	Nil	gallons per hour	waste.
B,	"	"	250	" "	"
C,	"	"	500	" "	"
D,	"	"	300	" "	"
E,	"	"	Nil	" "	"
F,	"	"	150	" "	"
G,	"	"	200	" "	"

H,	valve	shut	off.	200	gallons	per hour waste.
J,	"	"		250	"	" "
K,	"	"		Nil	"	" "
L,	"	"		Nil	"	" "
M,	"	"		200	"	" "
N,	"	"		480	"	" "
O,	"	"		Nil	"	" "
P,	"	"		100	"	" "
Q,	"	"		50	"	" "
R,	"	"		30	"	" "
S,	"	"		Nil	"	" "

E BULK AREA
SUB DISTRICT E 2
"HORACE"



G. J. W. W.

I do not wish to be understood as recommending this or any other method. I am simply trying to explain how the matter of waste is taken care of here. In Manchester nearly as good results are accomplished without the Deacon Meter System. One thing impresses itself on me most forcibly, and that is there is a real, honest, strenuous effort to avoid waste of water. Of course, their economy in some direction is justly open to criticism. But in one thing they must all be most highly commended. When they find that their system of water distribution is becoming like a sieve, they do not undertake to keep it full by adding, at an enormous expense, to their supply in order that the water may be brought in faster than it can run through their sieve. They feel that it will tax their resources sufficiently and burden the rate-payers enough to provide for the increasing demand and the increasing population, and therefore all waste must be prevented and every economy not detrimental to health and comfort must be employed.

It was not possible to get at the system of accounts other than what I have inclosed from the East London Company. The companies are private and in competition with one another and they refused to give me full information unless the Board of Directors authorized it.

I inclose the blank forms which the East London Company furnished me.

The Chief Engineer of the company asked me to put in writing some of the matters about which I wished to learn. I did so and he has answered most of them, and some very fully, and I give a copy of the letter below. I regard the report of this company as very important, especially in the matter of waste. It has had great difficulty in providing its territory with sufficient water on account of the small amount allowed to be taken from the rivers. It therefore became necessary for it either to control waste or give up part of its territory or perhaps go out of business. It feels sure it has solved the problem.

The following is a copy of the letter from the Chief Engineer of the East London Company:

"The population supplied by the East London Water Works Company is 1,450,000 and the supply is constant. All consumers get a full supply at all hours of the day and night, and it is merely turning on a tap to find high-pressure water issue instantly.

"You ask me how I account for the daily consumption per head being so much less than that of New York. In the first place the American gallon is 231 cubic inches and the English gallon is 277, or one-fifth more. That accounts for a slight difference, but all other measures, cubic feet, etc., are the same.

"With respect to house plumbing, that has to be done according to regulations, a copy of which is inclosed.

"It is not compulsory that stop-cocks, valves and other fittings be tested before use, but to encourage this the East London Company test and stamp all fittings submitted to them for use in their district free of charge. There are an immense number of houses in which stop-cocks are placed just inside the wall and perhaps an equal number that are placed just on the outside.

"The Deacon Meter System is the most valuable in detecting and localizing waste of any system ever brought to my knowledge, and I think I know every system in use throughout the water-works of the world. The same results could not be obtained as speedily and as accurately by the mere use of the sounding-rods and nightly inspections. The Deacon Meter System shows whether a district is wasting water or not. Then by shutting off street by street the exact amount of leakage or waste in each street can be ascertained. In one district, comprising ten to fifteen streets, it is possible that half the streets may be wasting water largely and the other half not at all. All the labor of going through the streets in good condition is saved by the Deacon Meter System. You ask, Could I give you an example where large waste was detected by the Deacon Meter System which could not have been detected without it? Yes; I could give you hundreds of instances. One or two may suffice. Sewerage operations, that are always going on, invariably cause subsidence of the ground and the pulling out of joints and the breaking of joints or of consumers' pipes. Suppose that a 4-inch pipe is broken across a sewer. The water escapes at nearly full boil into the sewer. Sounding-rods are useless. If, however, it is a mere crack, through which the water issues at pressure, sounding-rods will soon help to find the exact spot after it has been localized by the Deacon Meter.

"You ask, Do we use meters to register water supplied to consumers? Yes; two-fifths of the total income of the company is received from meter supplies for trade and public purposes,

the general price being 6d. per thousand gallons, or, reduced to American money and measure, 10 cents per thousand gallons. The meters belong to the company and are kept in repair by them, and an annual rent is charged. My company has about 7,000 or 8,000 meters in use. They are read weekly in case of very large consumers, but for small consumers perhaps twice a quarter. The accounts for meters are rendered quarterly. We use Siemens meters for large supplies, and for smaller supplies we use positive meters of a piston type from a half-dozen different makers. A number of small meters are obtained from the United States.

"As regards the charge for unmetered supplies—that is, supplies direct to houses, the charge is 1s. in the pound—*i. e.*, 5 per cent. on the ratable value in the rate-books. The average charge per house throughout the whole of the company's district is about £1 2s. per annum—say $5.50 per house per annum—including the biggest houses and the poorest, but we supply a great number of houses for less than $2 per annum. Every house can draw as much water as it likes at high pressure, night and day, without let or hindrance. All we ask is that no leaks occur and that water is not wasted.

"Strictly speaking, the water *rates* should be collected four times a year, but as a matter of convenience they are collected twice a year. Our prices are controlled by acts of Parliament. Our county Councils have no power whatever in controlling such matters. Every water company or municipal authority has to obtain an act of Parliament.

"Out of the company's gross revenue 11 per cent. has to be paid in local rates and taxes, excluding all Government taxes.

"The average cost of pumping by the East London Water Works Company is 1 cent per thousand gallons, lifted on an average 150 feet. The cost of filtration is about one-eighth of a cent per thousand gallons, or, in other figures, 1 cent is the cost of filtering 8,000 gallons.

"Most of the leading Water Engineers of the United States when in Europe call to see me, and we have often discussed the question of the enormous cost of water in American cities. It is a shocking waste from every point of view—in pumping machinery and cost of pumping; in deficient pressure caused by the waste, and which frequently hampers the fire brigade at

fires; more sewage to be got rid of and purified, greater areas of land to be purchased for the purpose of dealing with the sewage, damp houses and foundations, cracked walls through subsidences and greater sickness caused by the damp. Some years ago the pressure was so bad in ——— city that enormous volumes of water were run to waste in people's basements to work hydraulic rams to jerk the water to the tops of the houses. Then I fear politics enters too largely into the question of American water-works. Take the example again of ——— city the last fourteen or fifteen years. I have reports from most of the largest cities in the States, and the difficulty appears to me to be in one strong policy being continued with respect to fittings, control of waste, etc., and the only remedy seems to be to meter every supply. The volume of water supplied by my company during the past three months averages 36 American gallons per head per day. (This would be about 30 imperial gallons.) Seeing that everybody can draw as much water as he or she thinks proper at all hours of the day or night, I cannot see what more any one can desire."

The last part of the third sentence above is not quite clear to any one who has not heard the same thing expressed more clearly. The meaning intended is this. That we do not adopt any new methods or means of detecting or preventing waste, but hold on to the old system and then resort to metering every service pipe as the only remedy. To meter every service pipe, as I have said before in my other reports, would only discover a portion of the waste, and that at the expense of those who can illy afford to pay it. It is instructive to note that the charge for unmetered water averages $5.50 per annum, including the largest houses. That a great number of houses are supplied for less than $2 per annum; that only two-fifths of the revenue is from metered water at 10 cents per thousand gallons; that this produces enough revenue to pay 11 per cent. of the gross earnings for taxes, etc., and leave sufficient profit to pay 8 per cent. dividend on the shares. It should be borne in mind, also, that *all* the water is filtered and *all* pumped; nothing by gravitation. I may be permitted to state a few impressions I have received on the subject of waste in particular, especially as to the metering of all service pipes. Before leaving New York I believed in metering everything as the only means of detecting waste. I am now

as fully convinced that for that purpose meters are *entirely* unnecessary. In the first place, it can be easily demonstrated that waste can be, and is, detected without their use; second, they detect only a portion of one part of the waste; that is, they detect only the waste of water after it passes the meter and have nothing to do with waste in mains and service pipes. Their detecting waste in the house depends almost entirely upon the consumer. It does always, unless the waste is sufficiently great to attract the attention of officials who are honestly intent upon lowering the consumption. As one of the most prominent engineers I talked to—in a city, too, where all service pipes are metered—said, the majority of consumers would much rather pay for a little water wasted than to put a plumber in the house. For one it would be a small amount, but for a few hundred thousand it would be enormous.

It is difficult to explain the consumption in New York. There seem to be but two ways of explaining it. Either the waste is enormous or the water claimed to be delivered never reaches the distributing mains.

To claim that there is no waste in mains seems, in the face of my examinations, to be ridiculous. In every city I have visited and read about mains have been found to leak, and the work and materials are in no case poorer than in New York. At least, an honest effort to thoroughly determine the fact would give results most acceptable.

The regulations for water connections, fittings, etc., are given below. They are rather old. In 1900 the several companies got up new regulations and endeavored to have them enacted into law, but politics entered so largely into it finally that they were withdrawn.

REGULATIONS

MADE UNDER

THE METROPOLIS WATER ACT, 1871.

PLACE OF COMMUNICATION PIPE.

1. No "communication-pipe" for the conveyance of water from the water-works of the Company into any premises shall hereafter be laid until after the point or place at which such "communication-pipe" is proposed to be brought into such premises shall have had the approval of the Company.

WEIGHT OF LEAD PIPES.

2. No lead pipe shall hereafter be laid or fixed in or about any premises for the conveyance of or in connection with the water supplied by the Company (except when and as otherwise authorized by these regulations, or by the Company), unless the same shall be of equal thickness throughout, and of at least the weight following, that is to say:—

Internal Diameter of Pipe in Inches.	Weight of Pipe in lbs. per lineal Yard.
⅜-inch diameter.	5-lbs. per lineal yd.
½ " "	6 " "
⅝ " "	7½ " "
¾ " "	9 " "
1 " "	12 " "
1¼ " "	16 " "

INTERIOR PIPES.

3. Every pipe hereafter laid or fixed in the interior of any dwelling-house for the conveyance of, or in connection with, the water of the Company, must, unless with the consent of the Company, if in contact with the ground, be of lead, but may otherwise be of lead, copper, or wrought iron, at the option of the consumer.

NOT MORE THAN ONE COMMUNICATION-PIPE TO EACH HOUSE.

4. No house shall, unless with the permission of the Company in writing, be hereafter fitted with more than one "communication-pipe."

EVERY HOUSE, WITH CERTAIN EXCEPTIONS, TO HAVE ITS OWN COMMUNICATION-PIPE.

5. Every house supplied with water by the Company (except in cases of stand-pipes) shall have its own separate "communication-pipe." Provided that, as far as is consistent with the special Acts of the Company, in the case of a group or block of houses, the water-rates of which are paid by one owner, the said owner may, at his option, have one sufficient "communication-pipe" for such group or block.

NO HOUSE TO HAVE CONNECTION WITH FITTINGS OF ADJOINING HOUSE.

6. No house supplied with water by the Company shall have any connection with the pipes or other fittings of any other premises, except in the case of groups or blocks of houses referred to in the preceding Regulation.

CONNECTION TO BE BY FERRULE OR STOP COCK.

7. The connection of every "communication-pipe" with any pipe of the Company shall hereafter be made by means of a sound and suitable brass screwed ferrule or stop-cock with union, and such ferrule or stop-cock shall be so made as to have a clear area of waterway equal to that of a half-inch pipe. The connection of every "communication-pipe" with the pipes of the Company shall be made by the Company's workmen, and the Company shall be paid in advance the reasonable costs and charges of and incident to the making of such connection.

MATERIAL AND JOINTS OF EXTERNAL PIPES.

8. Every "communication-pipe" and every pipe external to the house and through the external walls thereof, hereafter respectively laid or

fixed, in connection with the water of the Company, shall be of lead, and every joint thereof shall be of the kind called a "plumbing" or "wiped" joint.

NO PIPE TO BE LAID THROUGH DRAINS, &C.

9. No pipe shall be used for the conveyance of, or in connection with, water supplied by the Company, which is laid or fixed through, in, or into any drain, ashpit, sink, or manure hole, or through, in, or into any place where the water conveyed through such pipe may be liable to become fouled, except where such drain, ashpit, sink, or manure-hole, or other such place shall be in the unavoidable course of such pipe, and then in every such case such pipe shall be passed through an exterior cast-iron pipe or jacket of sufficient length and strength, and of such construction as to afford due protection to the water-pipe.

DEPTH OF PIPE UNDER GROUND.

10. Every pipe hereafter laid for the conveyance of or in connection with water supplied by the Company, shall, when laid in open ground, be laid at least two feet six inches below the surface, and shall in every exposed situation be properly protected against the effects of frost.

NO CONNECTION WITH RAIN-WATER RECEPTACLE.

11. No pipe for the conveyance of, or in connection with, water supplied by the Company shall communicate with any cistern, butt, or other receptacle used or intended to be used for rain-water.

STOP-VALVE.

12. Every "communication-pipe" for the conveyance of water to be supplied by the Company into any premises shall have at or near its point of entrance into such premises, and if desired by the consumer within such premises, a sound and suitable stop-valve of the screw-down kind, with an area of waterway not less than that of a half-inch pipe and not greater than that of the "communication-pipe," the size of the valve within these limits being at the option of the consumer.

If placed in the ground, such "stop-valve" shall be protected by a proper cover and "guard-box."

CHARACTER OF CISTERNS AND BALL-TAPS.

13. Every cistern used in connection with the water supplied by the Company shall be made and at all times maintained water-tight, and be properly covered and placed in such a position that it may be inspected and cleansed. Every such existing cistern, if not already provided with an efficient "ball-tap," and every such future cistern shall be provided with a sound and suitable "ball-tap" of the valve kind, for the inlet of water.

WASTE-PIPES TO BE REMOVED OR CONVERTED INTO WARNING PIPES.

14. No overflow or waste-pipe other than a "warning-pipe" shall be attached to any cistern supplied with water by the Company, and every such overflow or waste-pipe existing at the time when these regulations come into operation shall be removed, or at the option of the consumer shall be converted into an efficient "warning-pipe" within two calendar months next after the Company shall have given to the occupier of, or

left at the premises in which such cistern is situate, notice in writing requiring such alteration to be made.

ARRANGEMENT OF WARNING PIPES.

15. Every "warning-pipe" shall be placed in such a situation as will admit of the discharge of the water from such "warning-pipe" being readily ascertained by the officers of the Company. And the position of such "warning-pipe" shall not be changed without previous notice to and approval by the Company.

BURIED CISTERNS PROHIBITED.

16. No cistern buried or excavated in the ground shall be used for the storage or reception of water supplied by the Company unless the use of such cistern shall be allowed in writing by the Company.

BUTTS PROHIBITED.

17. No wooden receptacle without a proper metallic lining shall be hereafter brought into use for the storage of any water supplied by the Company.

ORDINARY DRAW-TAP.

18. No draw-tap shall in future be fixed unless the same shall be sound and suitable, and of the "screw-down" kind.

DRAW-TAPS IN CONNECTION WITH STAND-PIPES.

19. Every draw-tap in connection with any "stand-pipe" or other apparatus outside any dwelling-house in a court or other public place, to supply any group or number of such dwelling-houses, shall be sound and suitable, and of the "waste-preventer" kind, and be protected as far as possible from injury by frost, theft or mischief.

BOILERS, WATERCLOSETS AND URINALS TO HAVE CISTERNS.

20. Every boiler, urinal and watercloset in which water supplied by the Company is used (other than waterclosets in which hand-flushing is employed), shall, within three months after these Regulations come into operation, be served only through a cistern or service-box, and without a stool-cock, and there shall be no direct communication from the pipes of the Company to any boiler, urinal or watercloset.

WATERCLOSET APPARATUS.

21. Every watercloset cistern or watercloset service-box hereafter fitted or fixed, in which water supplied by the Company is to be used, shall have an efficient waste-preventing apparatus so constructed as not to be capable of discharging more than two gallons of water at each flush.

URINAL CISTERN APPARATUS.

22. Every urinal cistern in which water supplied by the Company is used, other than public urinal cisterns, or cisterns having attached to them a self-closing apparatus, shall have an efficient "waste-preventing apparatus" so constructed as not to be capable of discharging more than one gallon of water at each flush.

WATERCLOSET DOWN-PIPES.

23. Every "down-pipe" hereafter fixed for the discharge of water into the pan or basin of any watercloset shall have an internal diameter

of not less than one inch and a quarter, and if of lead, shall weigh not less than nine pounds to every lineal yard.

PIPES SUPPLYING WATERCLOSET TO COMMUNICATE WITH CISTERN ONLY.

24. No pipe by which water is supplied by the Company to any watercloset shall communicate with any part of such watercloset, or with any apparatus connected therewith, except the service cistern thereof.

BATH TO BE WITHOUT OVERFLOW PIPE.

25. No bath supplied with water by the Company shall have any overflow waste-pipe, except it be so arranged as to act as a "warning-pipe."

BATH APPARATUS.

26. In every bath hereafter fitted or fixed, the outlet shall be distinct from and unconnected with the inlet or inlets; and the inlet or inlets must be placed so that the orifice or orifices shall be above the highest water level of the bath. The outlet of every such bath shall be provided with a perfectly water-tight plug, valve or cock.

ALTERATION OF FITTINGS.

27. No alteration shall be made in any fittings in connection with the supply of water by the Company without two days' previous notice in writing to the Company.

WATERWAY OF FITTINGS.

28. Except with the written consent of the consumer, no cock, ferrule, joint, union, valve, or other fitting, in the course of any "communication-pipe," shall have a waterway of less area than that of the "communication-pipe," so that the waterway from the water in the district-pipe or other supply-pipe of the Company up to and through the stop-valve prescribed by Regulation No. 12, shall not in any part be of less area than that of the "communication-pipe" itself, which pipe shall not be of less than a half-inch bore in all its course.

WEIGHT OF LEAD PIPES HAVING OPEN ENDS.

29. All lead "warning-pipes," and other lead pipes of which the ends are open, so that such pipes cannot remain charged with water, may be of the following minimum weights, that is to say:—

½-inch	(internal diameter)	3-lbs.	per yard.
¾ "	do.	5	"
1 "	do.	7	"

DEFINITION OF "COMMUNICATION-PIPE."

30. In these Regulations the term "communication-pipe" shall mean the pipe which extends from the district-pipe or other supply pipe of the Company up to the "stop-valve" prescribed in the Regulation No. 12.

PENALTIES.

31. Every person who shall wilfully violate, refuse or neglect to comply with, or shall wilfully do or cause to be done any act, matter or thing, in contravention of these Regulations, or any part thereof, shall for every such offence, be liable to a penalty in a sum not exceeding £5.

AUTHORIZED OFFICER MAY ACT FOR COMPANY.

32. Where, under the foregoing Regulations, any act is required or authorized to be done by the Company, the same may be done on behalf

of the Company by an authorized officer or servant of the Company, and where, under such Regulations, any notice is required to be given by the Company, the same shall be sufficiently authenticated if it be signed by an authorized officer or servant of the Company.

EXISTING FITTINGS.

33. All existing fittings which shall be sound and efficient, and are not required to be removed or altered under these Regulations, shall be deemed to be prescribed fittings, under the "Metropolis Water Act, 1871."

To have meters put on a supply pipe application must be made to the Board of Directors of the company. The applicant agrees to the regulations and rates which are printed on the back. After this an examination is made and the full statement made up. I send you all these forms, together with blank bills, etc., but as these were given me under reserve, I do not wish them published.

In Appendix E, Exhibit 1, I give scale of charges by meters both for domestic supplies and for other than domestic supplies. The charges are regulated by Parliament.

The charge for unmetered water is given fully in the letter above quoted and I will not repeat it.

I send you a copy of the semi-annual report of the Board of Directors to the proprietors, which will be interesting to look over.

By act of Parliament a Water Examiner is appointed, who examines the condition of the metropolitan water supply and reports each month. In Appedix E, Exhibit 2, is a copy of the Examiner's report for the month of August, 1902, omitting, however, that part which gives the analyses of the water. You will find among the printed matter sent you the monthly reports of the Examiner for each of the first eight months of this year. I think you will find the system and reports very interesting and of great value to the consumers and taxpayers.

Please bear in mind that the imperial gallon, which is 20 per cent. greater than our wine gallon, is referred to in this report, unless otherwise stated.

VI.—PARIS.

IT is almost impossible to say anything about Paris without saying something about the beauties of the city. Its wide boulevards and streets kept so clean and fresh; the way the city is laid out so that the streets and boulevards meet in such a way as to give the best effect to statues or monuments which can be seen from all of them. All these things and many more of a kind make the city of Paris, with all her faults, superb. It is, therefore, difficult to study particular branches of the city government in detail. There is so much to be seen without effort.

When one does commence the study of the Water Department, he finds that it and the Sewer Department, the telephone, telegraph and others are all so related to each other that the task becomes a large one if thoroughly and completely accomplished.

In the sewers are the water mains, side by side with the telephone and telegraph and pneumatic tube, so that they all, in a sense, become one system. To even approach a duplicate of the system for an equally large city would be a task the expense of which would render it impossible. However, in building subways it might be approached in part.

One naturally finds but little that can be copied in New York in the Water Department. The system of metering all service pipes and care of meters is about all. Of this I shall speak later on, after giving a short description of the water plant, which is most extensive, complete, and perhaps in its initial cost the most expensive to be found.

The city of Paris is supplied with two kinds of water, one from springs and sources of rivers, which is called "source water," and is used for domestic purposes only, with the exception which will be mentioned hereafter. The other supply is river water pumped from the rivers Seine and Marne. There are also small supplies, such as the wells at Passy and Grennell, the former of which is used entirely to supply lakes in the Bois de Boulogne. The water supplied by the Ourcq is used for the

purpose of furnishing water to the two canals, St. Denis and St. Martin, and also to parts of the city for public uses.

The source water is supplied by the Dhuis, which is about sixty miles from the city; the Vanne, about sixty-two miles, and the Avre, about one hundred and ten miles from the city. In order to secure sufficient pressure to raise hydraulic lifts, this source water is used, which is one of the exceptions above referred to. The others are industries having to do with food supplies, such as cafés, wine rooms, restaurants, saloons, factories and stores of food products, mineral water, etc. However, there are some times in the year, especially if the season is dry, when this water is not sufficient to supply all domestic uses. In such cases, which last only about five or ten days in a year, filtered river water is used. This filtration is very carefully done. The water is taken from the rivers above the city. With the Engineer I visited two of these works, and was especially impressed with the thorough manner in which the work was done and the care taken to avoid anything that might be uncleanly. The workmen, in taking off or replacing sand in the filter beds were not permitted to step on the sand, having boards to walk on, which were moved along as the work progressed.

The river water, some filtered and some not, which constitutes the public service supply is used for all public purposes, such as sprinkling and washing streets, gutters and pavements and all purposes not household or domestic, with the exceptions above noted.

As before mentioned, the water mains, supply mains, electric and telephone wires, pneumatic tubes and all pipes are in the sewers. The water mains and pipes are hung from the ceiling or walls of the sewer, except where the mains are large, when they are laid in the masonry or rest on standards placed on the bottom. There being two supplies there are two mains in each street and therefore in the sewers. The house supply pipe is taken off the supply main in the sewer and passes to the house through a brick and cement opening, which is large enough for a man to enter and work. Through this opening the soil pipe is taken from the house to the sewer. While going through the sewers I noticed that one of these openings often had more than one supply and soil pipe. It might be well to say that these openings are hermetically sealed from the sewer. Formerly they were

closed and sealed at or near the premises; now, they are all closed where they enter the sewer. So there is no danger of sewer gas entering the houses.

When I asked the Chief Engineer how they detected waste in mains and supply pipes, he laughed and explained the above system of pipes and mains. I then asked how he detected and prevented waste in the houses. His reply was that all water passed through meters, and that they depended upon the owners of the houses or the consumers of the water to see that there was little, if any, leak. In this manner the detection and prevention of waste is taken care of in Paris.

However, it will be seen from the regulations which follow that other precautions are taken to prevent interior waste. After all that the Chief Engineer said meters in themselves are not considered as entirely sufficient to control interior waste.

These regulations are quite lengthy, but in order that a proper understanding may be had of all the conditions that go along with the system of metering all service pipes, I deem it important to give them in full.

PARIS REGULATIONS, GENERAL IN CHARACTER.

ARTICLE 1.—Contracts begin on the first of Janary, April, July and October, and run for one year when gauge or meter is to be used, and for three months when apartments are to be supplied.

ART. 2.—The company determines which of several methods shall be applied. To wit:

1. Constant or intermittent flow, regular or irregular, to be regulated by a gauge cock for which only the company's agent shall have the keys. The water goes into a tank, the height of which is fixed by the company, and is drawn from it by a cock with a floating valve.

2. Estimates without gauge. This method is not generally applicable except to spring water.

3. Meter.

ART. 3.—Contracts for spring water with free faucet or open cock are only granted for the supply of residence property. They apply to domestic purposes only and are not available for premises in which any commerce or industry is carried on that involves the use of water.

ART. 4.—The tariff of rates for residence property is as follows:

One faucet in sink of premises occupied by one, two or three persons, 16 francs 20 centimes per year; for each additional person, 4 francs per year; for each additional cock in such premises, in water-closet, 4 francs per year; in bath-rooms, 12 francs per year; in shower-baths, 9 francs per year; elsewhere in the premises, 6 francs per year.

For each employee in such premises and each person who works, but does not lodge there, an additional charge of 60 centimes per year. Children under 7 years are counted at half rates, 2 francs per year.

Service by open cock is positively not permitted for supplying fountains, aquariums or any other continuous flow. Every infringement of this regulation will be prosecuted according to law.

ART. 5.—If the consumer, during a contract period, desires to obtain additional cocks, not specified in his original application (contract), he must, before beginning the work of installation, give notice by letter, addressed to the general manager of the company, so that a new application, including the proposed addition, may be presented for his signature. The increase of consumption so affected shall be paid for by the consumer from the day when the new cocks are installed, irrespective of the date fixed in the new application for beginning their use, and whether or not they are at once used.

If the consumer fails to give the above-prescribed notice, the new cocks will be considered as having existed throughout the quarter, and the increase caused by their introduction will be charged from the beginning of the term.

A like notice must also be given regarding each cock that is discontinued, and the manager shall acknowledge its receipt. No reduction in the cost of the service will be made on this account, until the beginning of the next quarter, no matter when the use of the cock was in fact discontinued.

ART. 6.—On floors where there is no apartment exceeding an annual rental of 500 francs, owners may establish a landing hydrant for the exclusive use of tenants living on such floors, but not engaging in a trade or industry requiring water. When, however, there are other similar floors in the same building a landing hydrant will not be installed unless the landlord agrees to put in one on each such floor. It is, of course, understood that such a hydrant can only be used on the landing (in the hallway) and not in an apartment. Every such hydrant shall be charged for at 16 francs 20 centimes per year.

ART. 7.—In all instances of contract for open cocks, every opening for drawing water in a kitchen or in a water-closet must be equipped with a self-closing apparatus and be of one of the patterns approved by the Department. Such cocks must not open explosively, and must not be capable of being held open otherwise than by the hand.

ART. 8.—Otherwise than by the two methods above described, water will not be furnished from and after January 1, 1881, except through meters or gauge cocks. Water used directly for motive power can only be taken through a meter.

Bathing establishments which do not want meter service may have service with open cock on the following terms:

The water supplied for baths will be Ourcq water wherever the level permits, otherwise Seine water.

The contract price for this service shall be estimated at one and one-half baths per tub per day, whether the baths are taken at the establishment or at residences.

The rate is fixed at 5 centimes (1 cent) per bath. Where needle baths,

steam baths, douches, etc., are furnished there must be a separate system of plumbing with gauge or meter. When these baths are supplied by water other than the city water, the establishment will not be permitted to contract for city water on the basis of estimated consumption.

Public washhouses using water, according to the level, from the Ourcq or the other rivers, must use either gauge or meter, and pay the price fixed for the industrial consumption of water in Article 24, below.

ART. 9.—Consumers can claim no indemnity for momentary interruption of flow resulting from freezing, drought, repairing of mains, acqueducts or reservoirs, stopping of machinery or any other similar cause.

In the event of interruption, either total or partial, the consumer should immediately notify the company at one of its offices, where books are kept for the entry of complaints.

If the interruption continues beyond three days from the day when the consumer's complaint was registered at the office of the company, the consumer will be entitled to a reduction proportionate to the period of interruption in excess of three days.

ART. 10.—During the years 1881-2-3 the company will undertake at its own expense to put into houses either stand pipes or some other more economical arrangement suitable for serving water to the occupants. These arrangements will be supplied without cost to the landlords and shall become their property. During these years the company will also furnish, without cost, in houses not now supplied, water connection, branch or stand pipe or other arrangement for every landlord who shall request it, up to the limit of the available appropriation. Nevertheless, stand-pipe connection and branch will not be established on the terms just indicated except in houses in which water is not now used, and for which it is agreed that the consumption shall be at least 162 francs or 32 francs 40 centimes ($6.48) per floor, if the number of floors are less than five. In houses where the water was in use on March 20, 1880, the date of signing a new contract between the company and the city, stand pipes will not be furnished gratuitously unless a supplemental contract is made of 32 francs and 40 centimes per floor. In estimating the number of floors, ground floors will be included where they contain living apartments or lodgings.

ART. 11.—The municipal administration shall, moreover, determine every year the maximum amount to be disbursed by the company for stand pipes, distributing arrangements and connections. It is, however, already determined that the total disbursements shall not exceed 5,000,000 francs during the years 1881-2-3.

ART. 12.—Stand pipes and other arrangements shall be placed in the stair wells or some other place more convenient to the kitchen, but outside the apartments and protected as far as possible from the cold. To prevent freezing, it is necessary that the pipes should be emptied at night and should not be used except during the time absolutely necessary for supplying water. Consumers who neglect this regulation will be themselves responsible for damages caused by freezing.

ART. 13.—Aside from the stand pipe or main-service arrangement, the pipes intended for the distribution of water in apartments or on landings shall be installed by landlords or consumers by workmen of their own choice. A bonus of 30 francs may be granted to each new consumer who

shall use water from the stand pipe or other arrangements during the year in which they are installed. This bonus will be paid after the completion of the inside plumbing.

ART. 14.—In cases where, during the years 1881-2-3, landlords themselves put in stand pipes at their own expense, on their own responsibility and by their own contractors, they shall be granted by way of bonus two-fifths of the proceeds of the new consumption resulting from the use of the stand pipe by their tenants during each of the first five years after the pipe is erected. Where landlords desire to put up a stand pipe or other arrangements on their premises, and receive the bonus mentioned in the preceding paragraph, they must address a special request to the Prefect of the Seine, who after a hearing will determine the facts and indicate any special provisions that he may deem necessary to prevent abuse in the use of water.

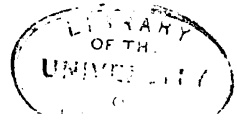
ART 15.—Landlords may, if they wish, have stand pipes or other arrangements which the company has erected or approved, kept in order either by the company, at prices fixed in the tariff below, or by any other contractor.

ART. 16.—Each landlord who wishes to install a stand pipe on the terms above indicated, shall address an application to the company indicating the number and terms of additional contracts which he wishes to take out for each stand pipe to be erected and which shall not be less than the number indicated in Article 10 above. The landlord will be required within fifteen days at least to sign the necessary contracts, and the date of such signing shall determine the priority of the work to be done for the various applicants. This contract shall provide that within six months the landlord must take out or cause to be taken out, the stipulated number of tenant contracts, and that after this period he shall be responsible for the difference between the amount of such tenant contracts and the minimum of his original requisition.

ART. 17.—Each individual property must have a separate branch and water connection in the public highway. A consumer is not permitted to conduct all or a part of the water to which he is entitled into other premises belonging to him unless they are adjoining and have a common courtyard. At the expiration of the contract period the stop-cocks and gauges made on the company's model will be returned to the consumer after the company shall have changed the head of such cocks; likewise in case of the replacing of such cocks.

ART. 18.—At the point where the branch begins under the street a stop-cock shall be placed requiring a key, and only the company's agent shall have the key. A gauge-cock shall also be inserted where the consumption is to be gauged. Consumers may place a second stop-cock inside their houses, provided the key to it is different from that of the company. It is forbidden, under penalty of the law, for consumers to use keys modeled after those of the company, or even to have them in their possession.

ART. 19.—Every stand pipe shall be provided with a stop-cock, which shall be sealed or inclosed in a box, under key, so that it cannot be operated, save in case of accident, by any one other than the company's agents. In the latter event, the proprietor of the stand pipe shall give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notice to the company without delay, indicating the reason which made it necessary for him to interfere. Every outlet on a stand pipe shall also be provided with a cock. These cocks shall be sealed and shall not be manipulated by any one other than the agents of the company, except in case of accident. Every infringement of this regulation will be punished according to law.

ART. 20.—The work of making a house branch from a public main shall be done, and the same shall be kept in repair by the workmen of the company at the expense of the applicant for the use of water, and at prices fixed by the tariff below, to wit: As far as the tank where the distribution is under gauge, or as far as the meter, where such is used, or as far as the inside face of the house wall, with the end of the old pipe reaching fifty centimeters inside the property, where the service is to be by free cock. The service of water shall begin as soon as the memorandum of charges for work of installation done shall have been paid by the applicant. One who shall have a tank or a meter inside their property may cause the interior plumbing beyond the tank or meter to be done by workmen of their own choice. Necessary work on the street pavement or sidewalk shall be done under the supervision of the street engineers of the city, at the expense of the applicant for water, pursuant to the provisions of the Prefectorial ordinance of July 29, 1879. Such applicants cannot object to work done for the maintenance and repair of pipes and cocks used in supplying them with water, when such work shall have been declared necessary. Every old water connection shall be provided with a stop-cock at the point where it leaves the public main on the first occasion when any repair or alteration is undertaken. The applicant, that is, landlord, must pay the cost of such work pursuant to the tariff below given within one month after receiving the memorandum, under pain of forfeiting the water rights without prejudice to the right of the company to take further proceedings if necessary.

ART. 21.—In all cases, where water connections, whether for public or private use, are made with a public main placed in a subway, the house pipe shall be placed in a branch sewer vault leading from the premises. This provision goes into effect immediately where such a branch already exists, otherwise as soon as the private sewer vault shall have been constructed. The house pipe shall be led into the premises along the roof of such private vault, or if this is impossible, it shall be carried laterally under the sidewalk along the front of the premises, and in this instance it shall be enclosed in a tight metallic sheath descending toward the vault. The work provided for in the two preceding paragraphs shall be done pursuant to Article 20, at the expense of the applicant for water, by the company or its contractors, on terms specified in the price list hereto attached. On failure to comply with this provision within twenty days from the demand which is to be made of the proper person by the chief engineer of the City Water Department, appropriate proceedings will be officially taken at the cost of the said applicant.

ART. 22.—Meters must be paid for by the applicant, who may choose from among the systems (meters) approved by the department and the company. Meters so purchased cannot be used until they have been

tested and stamped by the department. They shall be subjected to such tests as to accuracy and regularity in operation as the department and the company may deem best to prescribe. Meters may be installed by private contractors, but the work must be done according to the terms of the contract above mentioned and must be approved by the company's agents. The leading or sealing shall be done by the company's agent.

ART. 23.—The company will, on request, rent meters. It will select them from among those approved by the department. The tariff of charges for rent and maintenance of meters is as follows, to wit: Fixed charge per year, irrespective of the amount of water consumed, 5 francs. A variable charge in addition to the fixed charge of 15 per cent. of the price of water consumed for quantities less than 1,000 liters. From 1,000 to 5,000 liters, 15 per cent. on the first 1,000 and 6 francs a cubic meter additional daily average consumption. Above 5,000 liters the company will make suitable arrangements. In any event the charge for rent and maintenance can never exceed 12 per cent. of the current cost price of the meter chosen and of the cost of installing it.

ART. 24.—Ourcq water, aside from its public use, is exclusively reserved for industrial demands and supplying stables, carriage houses, courtyards and gardens. In streets where the level does not admit of introducing Ourcq water, the department may, in its discretion, supply Seine, Marne or similar water on the same terms, that is, if the properties are provided with source or spring water for the uses specified in Articles 3 and 6 above, and if the piping is suitable. The company is free to contract, subject to the approval of the department, in case of dispute, for furnishing water to be estimated and adjusted subsequently.

ART. 25.—The charge for water will be fixed according to the following tariff:

Daily consumption.	Annual charge per cubic meter. Water from the Ourcq and the rivers for industrial purposes, or for supplying stables, courtyards and gardens.	Spring (source) water, or river water for domestic uses.
125 liters per day	— Francs	20 Francs.
250 " " "	— "	40 "
500 " " "	— "	60 "
1,000 " " "	60 "	120 "
1,500 " " "	90 "	180 "
2,000 " " "	120 "	240 "
2,500 " " "	150 "	300 "
3,000 " " "	180 "	360 "
3,500 " " "	210 "	420 "
4,000 " " "	240 "	480 "
4,500 " " "	270 "	540 "
5,000 " " "	300 "	600 "

About five cubic meters and up to ten, but only for the last five, the charges will be fixed as follows:

For Ourcq water or its equivalent, 50 francs per year per cubic meter. For source water or its equivalent, 100 francs per year per cubic meter.

Above ten cubic meters and up to twenty, but only for the last ten, the charge will be fixed: For Ourcq water and its equivalent, indicated by Article 25, 40 francs per cubic meter per year; for source water, etc., 80 francs. Above twenty cubic meters, but only for the excess, the company will make proper terms, but in no case shall the charge per cubic meter be less than 25 francs for Ourcq water, or less than 55 francs for source water. Such special agreements must, moreover, be approved by the Prefect of the Seine.

ART. 26.—The minimum contract quantity is 1,000 liters for Ourcq, and 125 liters for source water. An applicant for water cannot demand water of a different kind from that running in the mains under the streets where his property is situated.

ART. 27.—The charge for consumption shall be paid in advance at the period specified in the contract, and company's receipt will be given.

Those who use meters must pay in advance for the whole year the charges fixed for their minimum consumption. Each cubic meter of water consumed in excess of the contract amount shall be paid for at the rate fixed in the contract. The amount of water consumed shall be determined during the first fortnight of each quarter, the consumer having an opportunity to object, since he must approve and sign the statement. The excess charge shall be due the company as soon as the quarterly statement shows that the minimum contract amount has been exceeded. In case the annual consumption should not reach the figure specified in the contract, the minimum charge therein fixed shall, nevertheless, be fully paid.

The daily consumption, moreover, must in no case exceed four times the quantity of water contracted for. On default of regular payment at the time above indicated the water supply will be cut off and the contract may be cancelled, without prejudice, however, to the company's right to proceed against the person so in default.

ART. 28.—Consumers shall be responsible to third parties for any and all damages resulting from the introduction and continuance of their pipes, without prejudice, however, to any appropriate defense they may have.

ART. 29.—As soon as the water is turned on in any property, a plan or statement shall be mutually agreed upon by and between the applicant and the company, showing the kind, arrangement and capacity of the pipes, to wit: From the house main to the tank where the service is under gauge; from the main to the meter where the service is through a meter, and in the case of apartments the plan or statement shall show, in addition, the interior plumbing, the number and location of the cocks and faucets. No part of the system as given in the statement can be changed without previous authority from the company.

ART. 30.—It is expressly forbidden for any one to permit his water pipes to be tapped inside or outside, for the benefit of third parties.

The city water of Paris is public water, inalienable and imprescriptible, and cannot be made a commodity of trade. It is, therefore, only granted to the residents on condition that they will not dispose of it otherwise than for the immediate use of themselves or their tenants. They are forbidden to dispose of all or any part of the water furnished them under their

contracts (even the overflow of tanks) to any other individual or intermediary, either gratuitously or for a money compensation, or in any manner whatever, nor shall he increase for his own benefit the volume of water consumed by him.

ART. 31.—The distribution of water in the interior of private property and in apartments shall be constantly subjected to inspection by the representatives of the company and of the city, in pain of discontinuance. The inspector may, at the expense of the department, put in a meter on every house branch, which will enable them to determine, if so desired, the actual consumption in each instance.

ART. 32.—It is forbidden for the consumers or any one connected with them, to remunerate any representative of the department or of the company, on any pretext whatever, in any manner whatever.

ART. 33.—Every infringement, duly proven, of the provisions of this ordinance, so far as it deals with the use of water under individual application or contract, will make the applicant or consumer liable to pay an indemnity of 300 francs as damages, and the ground of complaint and penalty must be renewed within fifteen days on pain of stopping the water until the regulations have been conformed to, either by signing a new contract or removing the cause of complaint, or by framing formal issues for settlement. When water contracted for as industrial shall have been used for domestic purposes, the consumer shall, in addition to the penalties above specified, pay for the water so consumed at the rate regularly charged for spring water, or river water intended for domestic purposes as provided in Article 25.

ART. 34.—The parties may discontinue the service of water under existing contracts by a notice given in advance by either of them as follows:

For annual contracts, from quarter to quarter, after the first year.

For quarterly contract, from month to month, after the first quarter.

But no matter when the notice is given, the agreed charge shall be paid to the end of the contract.

ART. 35.—The contract will not be cancelled by the mere fact of a change in the premises or establishment in which water is supplied. The contract consumer (original applicant) or his estate shall be liable for the water charges until they shall have complied with the formality required by Article 34, without prejudice to their right to look to the successor in possession who continues to use the water.

ART. 36.—When a contract has been cancelled, and the consumer owns his branch system, the company shall cut and detach the service pipe near the outlet from the public main, retaining the collar in each case so as properly to close the opening in the latter. This work, as also all excavations and reconnections, shall be undertaken by the general water company and at the expense of the consumer.

When the company has finished this work the owner of the branch may remove his stop-cocks, keys, faucets and other plumbing and equipment except the collar belonging to the main, but he must comply with the third paragraph of Article 17 above.

In any event, he shall continue liable for the consequences which may

result from his leaving any of the equipment, either inside the premises or under the street.

The company will keep a memorandum of these expenses, and they shall be repaid by the owner of the branch, or if he defaults, by the new applicant, who agrees in his contract to resume the use of water at the old connections. The old charges must be paid before the water will be turned on again.

ART. 37.—All expenses of revenue stamps and registration of contracts shall be borne by the consumer.

ART. 38.—All violations of the present ordinance shall be observed and formally officially noted of record by the company's representatives.

Articles 39 and 40 only explain in what manner this ordinance shall supersede former ordinances and regulations, and are not material.

Throughout the above ordinance, as translated, the names "consumer," "applicant" and "contractor" should be understood to mean the owner of the property where the water is consumed.

REGULATIONS CONTROLLING USE OF SOURCE WATER.

ORDINANCE OF 1894.

THE GENERAL WATER COMPANY.

Incorporated: Capital, 40,000,000 francs.

52 Rue d'Aujon, Paris

WATER DISTRIBUTION.

ORDINANCE

Regulating the granting of rights to use the pure or source water of the City of Paris. Deliberated by the Municipal Council of Paris, July 13, 1894, and approved by decree of the Prefect of the Seine, August 8, 1894.

ARTICLE 1.—The granting of rights to use the spring or "source" water of the City of Paris shall be upon the conditions and terms set forth in the following ordinance.

ART. 2.—Special agreements shall be made wherever the rights are to continue at least one year.

These agreements run from the first of January, April, July and October. They are made for one year only, but continue like leases by tacit renewal.

ART. 3.—Temporary water rights are granted on the request of interested parties, whose requisition shall state the probable duration and the approximate amount.

ART. 4.—The use of spring water shall be exclusively confined to household requirements.

It is forbidden to employ it for industrial purposes, for sprinkling gardens, or for cleaning courtyards, stables and carriage houses.

The only cases in which exception is made are industries having to do with food-supply, such as cafés, wine-rooms, breweries, restaurants, saloons, factories and stores of food products, mineral waters, etc., where spring water is necessary, or where the requirements are such as to demand

a regularity or a degree of pressure not to be obtained from the system supplying river water.

Persons who build hereafter must, upon simple notice from the management, proceed to put in a service pipe for supplying river water.

ART. 5.—If the spring water supply becomes insufficient or its distribution is made impossible by reason of an accident or other hindrance, river water from the Seine or the Marne may be substituted.

ART. 6.—The water will be delivered through meters, whether the service is temporary or permanent.

ART. 7.—Every separate property must have its own separate branch and connection with the street main. A consumer is not permitted to conduct all or any part of the water to which he is entitled into another property belonging to him unless it is adjacent and opens on the same courtyard.

Every opening made in a public main to draw off spring water shall obligate the consumer to pay 6 francs a year; but this payment is not required where the properties are entitled to the reduction of rates provided for in Article 15 below.

ART. 8.—The diameter of the service pipe shall be fixed by the management according to the probable amount of consumption.

At the point where the house branch starts, under the street, there shall be a stop-cock in the pipe provided with suitable key. Every existing branch not already provided with this appliance must be so equipped at the consumer's expense as soon as the defect is noted.

A second cock must be placed inside the premises and at least a meter outside the meter. Moreover, in the pipe leading from the meter into the premises there shall be a connection socket and another cock so as to permit the apparatus to be cut off and tested.

The inside stop-cocks are to be such as cannot be operated except by means of a key of a different model than that used in the general municipal water system.

ART. 9.—All the work of establishing branches from the public main and keeping them in repair, up to and including the meter, is to be done at the expense of the consumer and under the direction of the Compagnie Générale des Eaux.

The consumer shall have his own plumbing wherever he is made responsible for it and the cost of its maintenance.

Relaying of pavements and sidewalks is done by the public highway contractors on the terms provided in their contract, and the other work shall be the subject of special rulings covering periods not exceeding five years.

Consumers cannot object to any work of maintenance or repair on the pipes and cocks put in for their use whenever the management shall have declared it necessary.

Consumers may have the interior plumbing, from the meter up, done by plumbers of their own choice.

ART. 10.—Wherever the water connection is made with a main running through a pipe gallery, the house pipe shall be placed in the branch

drain through which the sewage of the premises is carried off or shall be transferred to it when such a branch is constructed, all at the consumer's expense.

The house main shall be carried into the premises along the top or ceiling of the private drain, or if that is impracticable shall be run laterally under the sidewalk along the front of the premises.

In this case it shall be enclosed in a tight sheath, in a thick casting, descending toward the private drain into which it must freely debouche. The end of the sheathing towards the house is to be fastened to the front wall.

Where the landlord is exempted from constructing the branch drain, the water-service pipe may be placed in a ditch, but must in that event be sheathed as above stated.

When the water service must be by means of a pipe placed under ground, the owners shall, on demand, indicate the point where the branch is to enter the property.

When the branch has once been completed the consumer will not again be heard in regard to the point at which it shall enter.

When a public main, originally placed under ground, is transferred to a subway pipe gallery, the house connection of each consumer shall be transferred to the new main within fifteen days after notice given by the management, and will be so transferred at his expense if he fails to do it.

ART. 11.—Meters are to be furnished by the consumers, who may choose them from among the systems approved by the management. When so chosen they cannot be used until they have been tested and stamped by the management.

They must be kept in good running order and shall be subjected to such tests as to accuracy and regularity as the management shall prescribe.

Meters belonging to consumers may be installed by private contractors. The connection at the house main will be made under the direction of the management. The meter shall be placed at the beginning of the private plumbing, in a place not exposed to freezing, or in the private drain vault if it is walled evenly with the public subway sewer vault.

It must always be made easily accessible for the representatives of the management from the interior of the property.

It is positively forbidden for a consumer to make any repairs on the meters or change their position except in the presence of a representative of the company or of the department.

The capacity of the meters shall be according to the amount consumed.

ART. 12.—The company shall, on request of any consumer, either rent and maintain the meters he requires, or merely maintain the meters owned by him.

But in this latter case the company may first demand that the meter be put in order and newly tested and stamped by the management at the consumer's expense.

Annual charges for rent and maintenance of meters shall be fixed according to the following tariff:

Diameter of Meter Opening.	Rental.	Maintenance.	Both.
10 Millimeters	7	7	14
15 "	9	9	18
20 "	12	10	22
30 "	15	15	30
40 "	22	20	42
60 "	35	30	65
80 "	45	35	80

The foregoing charges will be reduced by one-half for meters of ten to fifteen millimeters opening placed in such houses as are mentioned in Article 15 below.

Meters hired for temporary use will be charged for, including rental and maintenance, at the rate of .005 franc per day and per millimeter of capacity.

Maintenance does not include expense of repairs necessitated by freezing or any other cause not the result of its use. Such expense is chargeable to the consumer and upon him rests the duty of taking necessary precautions to prevent the accidents in question.

ART. 13.—The quantity of spring water consumed is to be paid for at the rate of 35 centimes per cubic meter according to the meter readings.

Where, however, spring water is used to run machinery by means of the pressure in the public mains, it must pass through a special meter and be paid for at the rate of 60 centimes per cubic meter.

ART. 14.—In the case of real property where the rents of apartments do not exceed 800 francs, the owner may make one contract for all such apartments at a contract price as follows:

Six francs for apartments less than 300 francs; 9 francs for apartments from 300 to 400 francs, exclusive; 14 francs for apartments from 400 to 640 francs; 20 francs for apartments from 640 to 800 francs, inclusive.

Business places and residences which have an inside connection are not included in estimating these rentals and are not entitled to these contract prices. Their supply of spring water must be quite separate and the consumption be measured by means of meters upon terms to be prescribed by the management.

ART. 15.—A reduction of one-half will be made on the tariff fixed in Article 13 for all houses of which the income value does not exceed 400 francs.

The same reduction will be made for houses renting for more than 400 and less than 800 francs, but only where they contain more than one apartment and at least one apartment is rented.

ART. 16.—The provisions of the two preceding articles are applicable only where the consumption does not exceed twenty cubic meters annually for each person residing in such houses. The excess must be paid for at the rate of 35 centimes per cubic meter.

The number of residents so to be considered in determining what portion of the consumption shall be entitled to the reduction specified in the

said two articles is to be ascertained and fixed by the city authorities after hearing the company and the interested parties, and this shall be done before the water contract is signed.

When the number of residents has been so determined it cannot subsequently be changed except on demand of one of the parties and as a result of alterations in the building or in the use of the apartments it contains. And such a change does not affect the current year's contract, but only the next renewal.

ART. 17.—Meters shall be officially read four times a year at as regular intervals as possible, and the amount consumed shall be paid for within fifteen days after each reading.

If, by reason of non-registration by the meter or for any other cause, it should be impossible to determine absolutely the consumption of water it shall be estimated on the daily average for the corresponding period of the preceding year or, that being impossible, on the daily average during the current year.

The special contract rates provided for in Article 14 must be paid semi-annually in advance.

The payment for temporary supply shall be made in advance, taking into consideration the proposed duration and consumption.

Any excess shall be paid for immediately, as also any extension of the period of use.

The charge for connecting with the main shall be paid at the beginning of each year.

ART. 18.—As soon as work of installation or maintenance is completed a memorandum of the same shall be prepared, which, after being approved by the contractors, will be presented to the interested parties, who must pay it within one month.

Rental and maintenance charges for meters shall be paid semi-annually in advance.

Where the use of water is temporary, these charges shall be paid at the same time as the water tax.

ART. 19.—In the case of new contracts, the water will not be turned on until the expense of installation, so far as chargeable to the consumer, shall have been paid.

On failure to pay regularly, within the period fixed, the charges made either for water or for maintenance, the water may be turned off without prejudice to the right to proceed against the consumer for arrearages of payments due.

ART. 20.—After the expiration of the first year, either party may terminate the contract at the end of any quarter by notifying the other party at the end of the preceding quarter. If the applicant (consumer) discontinues the use of water before the expiration of the contract, the contract rate must nevertheless be paid until such expiration. In case the water is cut off for non-payment of rates, the contract is deemed cancelled from the date of closing the service pipe.

ART. 21.—The contract is not cancelled by the death of the consumer, but continues an obligation against his estate. Where the property on which the water is used is sold, the contract as such is abrogated, but the consumer continues responsible as guarantor for the charges for water fur-

nished after the change of title for a period of six months, if he has not previously notified the company; but he retains the right to require payment from his successor or the person who used the water.

ART. 22.—In case of change of title, the apparatus involved in the water connection is transferred to the successor by the simple substitution of the latter in the contract. Whenever there is a discontinuance or cancelation of the contract in water service the private branch is to be at once cut off from the public main and the opening in the latter is to be closed by a contrivance provided for this purpose. This is to be done at the expense of the consumer, who may insist upon removal of the branch pipe or other equipment which belongs to him, though placed in the street. The materials which result from the breaking off of such connection will be turned over to the consumer upon his paying the expense of all the work, including extensions and reconnections. In case the cancelation results from default in payment of money due from the consumer, the latter is obliged to have the branch connection in place until he has paid the obligation. The city shall have the right to use it for serving water on the property to a new consumer and to demand in consideration of the new service the payment of the sums due from the former consumer until the total value of the branch shall have been paid.

ART. 23.—The differences of pressure, the presence of air in the mains, momentary stoppages of water, with or without notice, shall not give the consumers any right to indemnity or any claim whatever against the City of Paris, especially in regard to the use of water for running mechanical engines. It is expressly stipulated that consumers must at their own risk and peril take all precautions necessary to avoid accidents which might result from the said facts or conditions, and shall put up with the inconveniences resulting therefrom without making any claims in regard thereto. The same shall be true of interruptions resulting from freezing or droughts, or repairs to mains, aqueducts and reservoirs, whether from stopping of machinery or any other like cause, as well as the temporary substitution of river water (Marne and Seine) for spring water. Consumers, however, shall have the right to report these facts to the water bureau of their district, the location of which is specified in the contract, and to enter their complaints in a register kept there for that purpose.

ART. 24.—Owners of property being free to put in plumbing and apparatus for the distribution and use of city water in the manner and with the materials which they may prefer, are exclusively responsible toward third parties for the damages which may result from the introduction, continuance and operation of their pipes and apparatus. They shall also be responsible for the consumption of water which may result from leakage, visible or invisible, which begins in connection with the interior plumbing.

ART. 25.—The consumer shall pay the expense of internal revenue and registration of contracts.

ART. 26.—It is forbidden for consumers to use faucet keys of the model of those of the department or even to have them in their possession.

ART. 27.—The consumer must not make any change in the arrangement of the plumbing as the same stood when he began to use the water until

he shall have previously obtained authorization. He cannot refuse permission to see and read and test the meters. The distribution of water within the interior of private properties and apartments shall constantly be subject to inspection by the representatives of the company and of the department.

ART. 28.—It is especially forbidden to make any connection between interior systems of plumbing which supply different kinds of water. If the representatives of the department ascertain that any such have been established in violation of this provision the service of river water will be at once suspended until the consumer shall have discontinued the said connection, without prejudice to the proceedings to which he may have made himself liable.

ART. 29.—It is forbidden for consumers to permit water to be drawn from their pipes for the use of third parties.

The water of the City of Paris is public water, inalienable and imprescriptible and cannot become an article of trade. It is therefore served to consumers solely on condition that they use it for themselves and their tenants. They are forbidden to dispose of it gratuitously, or for a money price, to any other individual or intermediary. It is also forbidden for them on any pretext whatever to demand from their tenants any higher rate than they themselves are obliged to pay.

ART. 30.—It is forbidden to remunerate or fee any employee connected with the water service under any pretext or in any manner whatever.

ART. 31.—Every violation of the preceding regulations shall be certified by sworn agents who shall make a formal return in writing. Every such violation will be made the basis of proceedings before the competent tribunals. Aside from the penalty regularly attached to every such violation, the consumers may be condemned to pay as damages to the city a sum hereby fixed at 300 francs.

ART. 32.—The provisions of this ordinance are applicable

1. To all new applications for source water after the date of its publication.

2. To all existing contracts as soon as they can be discontinued for this purpose by the giving of such notice as may be therein required.

ART. 33.—The present ordinance applies in all its provisions to the public offices and institutions connected with the administration of the Department of the Seine, the City of Paris and of the Republic, except where special agreements shall have modified its application.

ART. 34.—The previous ordinances concerning water distribution are abrogated by the taking effect of the present ordinance so far as their provisions are in conflict with it.

Table showing the daily average consumption which it is wise not to exceed in order to insure long usage and good condition for a meter:

(Caliber) Size.	For Daily Consumption of
0.010 millimeter	500 to 800 liters.
.015 "	800 " 1,500 "
.020 "	1,500 " 4,000 "
.030 "	4,000 " 12,000 "
.040 "	12,000 " 30,000 "
.060 "	30,000 " 80,000 "
.080 "	80,000 " 200,000 "
.100 "	200,000 " 500,000 "

The city of Paris, which has a claimed population of 2,700,000, is comprised in that territory within the fortifications, together with the Bois de Boulogne. The numerous towns and villages outside the fortifications, although contiguous to the city, are separate municipalities and are for the most part supplied by the Compagnie Générale des Eaux. I will have more to say about this company later on, but have to deal with it in connection with the city, owing to the dual system in the distribution of water.

In 1860, when the city's boundaries were extended, territory was added, which was supplied with water by this company. A contract to run fifty years was entered into by the city and this company, whereby the city was to own all the mains and any system of distribution up to the premises in the larger city, and the company was to take charge of the distribution at that point in the entire larger city. The company was reimbursed for doing this by keeping a certain fixed percentage of the revenue, turning the balance over to the city. This contract, I was informed, will not be renewed. It is found in Paris, as well as elsewhere, that such contracts are not beneficial to the city's best interests.

It is therefore necessary to go to this company for all the detail system of meters, collections, accounts, etc., for the city.

Although I had a letter of introduction from our Ambassador, the Directeur of the company declined to give me any of the details of their system of accounts on the ground that the company was a private corporation, and could not do so without special authorization. He did, however, hand me some papers, which are enclosed and will be found of interest.

All water used, both public and private or domestic, except that which is used for municipal purposes, is metered. The number of meters now in use is about 100,000. In 1900 there were 95,912. They are read every three months by inspectors who read an average of between sixty and seventy per day. The meters in use are the Etoile, Kennedy, Frost, Frager, Seimens, Kern, Schribera and Anti-Belier; full description of each one is among the papers sent you. A few American meters are also being tested, some of which are very successful.

The meters measure the water in cubic meters, a cubic meter being equal to about 265 wine gallons. The charge for source

water for domestic use is thirty centimes or about six cents per cubic meter. This would be about $1.75 per one thousand cubic feet, which costs in New York $1. For source water used for hydraulic purposes the charge is sixty centimes or twelve cents per cubic meter. The charge for river water for public uses is fifteen centimes, or three cents per cubic meter.

The total quantity of water consumed in 1900 was distributed as follows:

	Cu. Meters.		Cu. Meters.
Spring or source.....	77,273,100	per day	211,707
Filtered river water...	5,110,400	" "	14,001
Unfiltered river water.	101,675,400	" "	287,563
Ourcq and wells.....	51,395,400	" "	114,810
	235,454,300		645,081

The daily per capita consumption was 249 liters, of which 86 were spring and 163 were river water. This was a daily per capita consumption of about sixty gallons, of which about twenty gallons were for domestic use and the balance was public use and waste. The supply is constant day and night, but it is difficult to make any comparisons with New York, because the conditions are so different. New York does not begin to use as much water on her streets or parks nor in her fountains, while Paris does not have the facilities for using so much in her houses. The water-closet flush cisterns do not hold more than two gallons, most of them not more than one and a half. In the poorer class of houses and hotels the water-closets are exceedingly primitive and I would not care to describe them here. In new houses and hotels and in old ones where the plumbing has been renewed, it is quite up to date. My observation leads me to express the hope that the quantity of water used in our water-closet flush cisterns will never be reduced.

The quantity of water used on the streets is certainly most creditable to Paris, and as I stood several times and watched the gutters and pavements being literally scrubbed, and hours afterward could see a small stream of water, perfectly clean and clear, running in the gutters which were perfectly clean, it occurred to me what a glorious thing it would be if New York had another set of mains supplied from the river above the mouths of the sewers for street washing and cleansing.

But, alas! I fear her sewers will not permit it. In Paris everything is swept into the sewers and is delivered with the sewage at Clichy, where it is pumped to the large agricultural fields at Herblay, and used as a fertilizer. No sewage from the city is emptied into the rivers.

The total receipts for 1900 were 22,367,744 francs 68 centimes. The amount paid to the Compagnie Générale des Eaux was 1,919,100. The other revenues from canals, concessions, etc., will appear in the annual report.

To obtain water an agreement must be entered into between the company and the consumer desiring water. Copies of these applications and agreements are in Appendix F.

The positions of the employees are all virtually permanent. Clerks and inspectors are not paid anything like as large salaries as they are in New York for the same class of work. All the offices are not housed in one building, and those outside the Hotel de Ville, to say the least, are not especially attractive.

The Compagnie Générale des Eaux, which furnishes water to villages and towns outside of Paris, sent their Chief Engineer with me to their works up the Seine at Choisy-le-Roi. The plant furnishes water to about 500,000 people, and is most interesting in every particular. The system of filtration is different from any I have seen, and I may be pardoned for giving a short description of it here.

The water taken from the Seine is treated by the Anderson process before being turned into the filter beds. This process can be described as follows, without using technical terms: The water is pumped into a horizontal revolving cylinder about three feet in diameter and about twenty-five feet in length. This cylinder has in it a quantity of pieces of old iron, which are lifted up by flanges running lengthwise on the inside and then dropped down through the water as it is forced through. There is never sufficient water to fill the cylinder. At the opposite end from where the water enters air is forced in and comes in contact with the water and iron. It is claimed that the oxidization which takes place kills all germs, etc., of every kind. After this the water is run over steps or uneven surfaces and through open conduits to provide it with air which has been entirely burnt out of it while passing through the iron. It is then thrown on the filter beds, after which it is sent to the reservoirs ready to be used.

To illustrate the visible results of this treatment, the company has two pipes, three or four inches in diameter, raised horizontally about four feet from the ground. One is six feet long, the other fifteen. The short one is filled with water from the Seine unfiltered; the other with filtered water, such as is delivered to the consumer. One cannot see through the short pipe at all, while the water in the long one is so clear that the large type in a newspaper can be seen and read through it. As I saw these pipes filled, I am sure there was no deception. Everything about the plant was most scrupulously clean. The preparing and renewing of the filter beds was most carefully done. As before stated, none of the workmen were permitted to step on the sand. They had to use planks. In order to detect and prevent waste, the company uses the meter system very generally, which the Engineer said did fairly well for waste in houses, but was not entirely satisfactory. The most satisfactory and thorough method was house inspection and nightly inspection of valves with sounding rods, such as already described in my report on Manchester and London.

The company does not use the Deacon Waste-Detecting Meter. It is regarded as too delicate in construction and too difficult to operate. By the method above noted, together with careful attention to pipes, castings, fittings, etc., the company is able to keep down the daily per capita consumption, which is not over forty wine gallons in any village and is oftener not over thirty.

The Directeur refused to let me see the books of accounts. I find he has many similar requests.

VII.—COLOGNE.

THE city of Cologne, with a population of less than four hundred thousand, presents a different condition of affairs from any I have yet examined.

By the extreme courtesy of our Vice-Consul there, I was afforded every opportunity for making my examination. However, it was not easy, by reason of the German language, although I had an interpreter, as it was in England and France. The city obtains its water from wells, which are sunk in the gravel not more than three hundred feet from the River Rhine, and in the outskirts of the city. In fact, it is built up all around wells. The wells are seventy-five feet deep and fifteen in diameter, and are several in number. The water is pumped from these wells into underground reservoirs, and from these to the distributive reservoirs and mains. The water is not filtered, the theory being that the bed of gravel and sand through which the water comes is a natural filter. It is well to understand that the water does not come from the river through the gravel into the wells, but it is water coming from the mountains to the river, and is shown by analysis to be pure but hard. The reservoirs are built underground, the walls, bottom and top being masonry and cement and water-tight, the top being made water-tight by the use of asphalt so that surface water cannot enter. All mains and surface pipes are buried in the ground below frost. All taps are put in by a T. That is, by cutting out the main and inserting the T. No inspection of the mains or surface pipes are made by either night inspection or sounding rods. In case of leaks in mains or service pipes they depend upon the water rising to the surface and thus indicating it. From what I could ascertain, the pipes and fittings are all the best and the work well done.

For the control of waste in the houses the meter system has been adopted. The use of meters was adopted as far back as 1878, when there were 208 meters in use. The number increased until in 1889 there were 807. In 1890 they increased to 2,084. But it was not until 1892 that it was determined to meter all service pipes. The daily per capita consumption had risen in 1891 to

168.44 liters, when there were only 4,204 meters in use. In 1892 the number of meters increased to 9,423, and to 15,435 in 1893, in which year the daily per capita consumption fell to 111.91 liters. In 1901 there were 21,084 meters in use, and the daily per capita consumption was 122.35 liters, which is equal to about 30 wine gallons against about 45½ in 1891. In 1901 all but about 22½ per cent. of the water delivered to the city was metered. In the unmetered water is, of course, included water for public fountains, parks, streets, etc. The kinds of meters in use will be found on pages 73 and 74 of the enclosed report of 1900 and 1901. It will be seen that there are fifteen different kinds. Some of them I would not consider accurate. In fact, the Engineers do not claim them to be. I am sure we would not regard the ones I examined sufficiently accurate to use in New York.

You will observe from the diagram in Appendix G, Exhibit 1, that the largest consumption was in the third quarter of 1892, and that nine years later, with a much increased population and better facilities for distributing water, the consumption is 300,000 cubic meters less. This is not entirely due to the use of meters. With the high consumption of 1892, the municipality went to work to stop waste in every direction possible without curtailing legitimate consumption. The old wasteful system of plumbing was supplanted by a new and saving one, if not entirely up to date according to our ideas. The point is this, and as I have dwelt on it before, it is not new: That economy in every direction up to a point where further economy would be deprivation is rigidly enforced. This economy is not confined to the consumer, but is most rigidly enforced by the city itself by honestly leaving nothing undone that makes to that end.

The daily per capita consumption for 1901 was not quite thirty-three wine gallons. This must not be compared too closely with New York consumption, because not as much water is used for private purposes. The facilities for using it to the same extent do not exist. The water-closet arrangements in many of the old houses are still primitive, and the use of necessary water is impossible. The four days I was in Cologne, eating at different hotels and restaurants, I saw but one person drink water, and while he looked like a German and always spoke German, he nevertheless wore a Loyal Legion button. What effect the

non-drinking of water would have on the consumption I will not attempt to estimate.

On the other hand, the city uses, proportionately, a very great deal more water on its streets, parks and fountains, which are numerous, so, as I said before, a comparison is difficult, and certainly so until the exact amount of water used for each purpose is known by each city. I might add, however, that the Engineers were stupified at the amount used in New York.

The meters are read quarterly and payment made quarterly. The Inspectors, or Meter Readers, are supposed to work from 8 to 12 and from 2 or 3 to 7, and read from 160 to 200 meters. Sometimes an Inspector gets down to 80 or 90, and he is called lazy, and the General Inspector goes out with him over his route to ascertain what is the difficulty. If he is really lazy, he is discharged. Here again we must be careful about comparisons. The municipality owns the gas works, as well as the electric works, and when an Inspector enters a house he reads all three meters. So he is able to pick up a number of meters with little walking. The supply of water is constant day and night.

Through the courtesy of the City Engineer, I went through the pumping stations and engine-rooms and took a look in the reservoir and one of the wells. The equipment was most thorough and up to date. Everything had the appearance of the best workmanship, and was done in such a way as to need few repairs in the future.

The salaries of employees are much lower than they are in New York, but the positions are permanent, during good behavior, and besides they have a pension or superannuation to look forward to when they can work no longer to the city's advantage.

The Burgomaster, who corresponds to our Mayor, is elected for twelve years. The present Burgomaster is serving his fifteenth year. This long service seems to be the rule in Germany. In the charming little quaint old town of Hildersheim the Burgomaster was serving his twenty-seventh year, and every man, woman and child in the place looked up to him and honored and respected him as a father.

I referred above to the regulations designed to render waste as nearly impossible as they can devise. I give a translation of them below. It will be seen that the regulations are exceedingly strict, and I presume some would say harsh. But as you study

them you will be impressed with the idea that it only carries out every requirement to a minute detail which has for its result complete understanding and accuracy.

RULES AND RATES FOR THE USE OF CITY WATER IN COLOGNE.

The following statement of rules and rates for water consumption in the City of Cologne is issued pursuant to the resolutions of the City Council of June 12th and 27th and July 4th of this year, and in accordance with Section 4 of the Local Tax law of July 14, 1893.

SECTION 1.—Water from the waterworks of the City of Cologne will be furnished within the territory covered by the water-pipe system to all property owners, but only in each instance for an entire property and never for separate portions thereof (flats, floors, lofts, gardens).

It will be supplied only to the owner of the property.

SEC. 2.—Written application shall be made to the director of the waterworks.

SEC. 3.—A consumer, by filing his application, becomes bound to take water for his property from the city waterworks for an entire year, beginning when the house plumbing is connected with the street main, according to the present rules and rates.

If, at least three months before the end of the first year, the application is not withdrawn, the consumer's obligation continues and can be cancelled only at the beginning of a quarter upon giving a quarter's notice.

The consumer can demand relief from his contract only in case the property is altogether vacant, *i. e.*, neither occupied nor furnished. In this case the water meter will be removed at the consumer's expense. For every month, however, in which there is any consumption of water, the water rent and the meter hire must be fully paid.

The decision of the officers of the waterworks shall be final as to whether a property is to be considered vacant, and there can be no recourse to judicial proceedings. If a consumer conveys his property while his water contract is running, he continues responsible to the waterworks for the payment of rates and other claims until the expiration of his contract (Section 3).

SEC. 4.—There must be at least one separate service pipe with water meter for every separate property.

It is forbidden to supply several properties by means of one service pipe.

It is forbidden, under the penalty of the law, to take water for other purposes than the needs of the premises into which the service pipe leads. Exceptions may be made with the approval of the waterworks authorities.

Service pipes used only for purposes of fire extinguishing and on which the stop-cock or fire hydrant is kept under lead seal are not obliged to be provided with water meters.

SEC. 5.—Every separate property shall have a separate water meter.

On premises which are used for business as well as residence purposes

special meters may be provided which shall indicate separately the consumption for domestic uses and that for commercial purposes. In this case the minimum rate shall be determined pursuant to Section 7b.

The size of the water meter and the place and the manner of setting it up shall be determined by the director of the city waterworks.

In ascertaining what premises shall constitute a separate property the same method shall be employed as is used in assessments for real estate taxes.

Water meters shall be supplied and installed by the director of the city waterworks. They are only rented, not sold, to consumers, and a quarterly rent, to be fixed by the waterworks authorities, shall be collected therefor.

The consumer shall bear the expense of installing and removing the meter.

All work and repair in connection with water meters shall be done exclusively by the waterworks authorities, who will bear the expense of repairs necessitated by the ordinary wear and tear. Other repairs will be charged to the consumer, who, under all circumstances, will be held responsible for the loss of the meter, *e. g.*, by theft or fire, as well as for injuries thereto through accident or freezing.

Disputes as to the amount of the consumption and the accuracy of the metering shall be settled by a test of the meter, at the testing office, upon the consumer's request and in his presence. If the test discloses variations, not exceeding 5 per cent. either way, the meter is to be taken as accurate. If the variations exceed this percentage, or if the meter has ceased to register, the director shall have the option of fixing the consumption according to that of the corresponding quarter of the preceding year, or the average consumption of the preceding quarter and the following quarter, or by an estimate based on any other existing indications.

Where a meter test is made at the consumer's request, and discloses the aforesaid accuracy within 5 per cent., the consumer shall bear the expense of the test.

SEC. 6.—The actual consumption shall determine the charge for use of water, but there will be a minimum rate for every property, to be fixed according to Section 7.

The rates for water consumption, as indicated by the meter, are as follows:

Up to 100 cubic meters per quarter the rate per 100 is 0.15 mark.

100 to 300 cubic meters, 15 marks for first 100. For each additional cubic meter, 0.14 mark.

300 to 600 cubic meters, 43 marks for first 300. For each additional cubic meter, 0.13 mark.

600 to 1,000 cubic meters, 82 marks for first 600. For each additional cubic meter, 0.12 mark.

1,000 to 1,500 cubic meters, 130 marks for first 1,000. For each additional cubic meter, 0.11 mark.

1,500 to 2,000 cubic meters, 185 marks for first 1,500. For each additional cubic meter, 0.10 mark.

2,000 to 3,000 cubic meters, 235 marks for first 2,000. For each additional cubic meter, 0.09 mark.

3,000 to 5,000 cubic meters, 325 marks for first 3,000. For each additional cubic meter, 0.08 mark.

5,000 to 10,000 cubic meters, 485 marks for first 5,000. For each additional cubic meter, 0.07 mark.

10,000 to 20,000 cubic meters, 835 marks for first 10,000. For each additional cubic meter, 0.06 mark.

20,000 cubic meters, 1,435 marks for first 20,000. For each additional cubic meter, 0.05 mark.

SEC. 7a.—Where water is used for ordinary household purposes, each separate property shall pay a minimum rate to be determined according to the building tax. This rate must be paid whether or not the actual consumption equals the corresponding amount fixed in the table of rates.

The quarterly minimum rate to be paid is as follows:

1.		Up to	12	marks	....	—.—	marks	22.	Over	300	to	350	marks	....	30.— mark
2.	Over	12 to	16	"	....	—.50	"	23.	"	350	"	400	"	....	35.— "
3.	"	16 "	20	"	....	1.—	"	24.	"	400	"	450	"	....	40.— "
4.	"	20 "	25	"		1.50	"	25.	"	450	"	500	"	....	45.— "
5.	"	25 "	30	"	....	2.—	"	26.	"	500	"	600	"	....	50.— "
6.	"	30 "	35	"	....	2.50	"	27.	"	600	"	700	"	....	60.— "
7.	"	35 "	40	"	....	3.—	"	28.	"	700	"	800	"	....	70.— "
8.	"	40 "	45	"		3.50	"	29.	"	800	"	900	"	....	80.— "
9.	"	45 "	50	"	....	4.—	"	30.	"	900	"	1000	"	....	90.— "
10.	"	50 "	60	"		5.—	"	31.	"	1000	"	1200	"	....	100.— "
11.	"	60 "	70	"	....	6.—	"	32.	"	1200	"	1400	"	....	120.— "
12.	"	70 "	80	"	....	7.—	"	33.	"	1400	"	1600	"	....	140.— "
13.	"	80 "	90	"	....	8.—	"	34.	"	1600	"	1800	"		160.— "
14.	"	90 "	100	"	....	9.—	"	35.	"	1800	"	2000	"	....	180.— "
15.	"	100 "	120	"		10.—	"	36.	"	2000	"	2200	"	....	200.— "
16.	"	120 "	140	"		12.—	"	37.	"	2200	"	2400	"	....	220.— "
17.	"	140 "	160	"	....	14.—	"	38.	"	2400	"	2600	"	....	240.— "
18.	"	160 "	180	"	....	16.—	"	39.	"	2600	"	2800	"		260.— "
19.	"	180 "	200	"	....	18.—	"	40.	"	2800	"	3000	"	....	280.— "
20.	"	200 "	250	"	....	20.—	"	41.	"		3000		"	....	300.— "
21.	"	250 "	300	"	....	25.—	"								

Consumers belonging to the first seven grades or classes may use twenty cubic meters of water a quarter at the minimum rate specified. For any consumption in excess of that amount they shall pay an additional rate according to the amount actually consumed. In the case of the public, municipal or other exempt properties which are not used for business purposes, the minimum rate shall be fixed according to Paragraph 7a. In this behalf a building tax shall be levied and an appraisal agreed upon in accordance with the exemption provision of Paragraph 5 of the Building Tax Law.

As soon, however, as any business is carried on in the premises, a minimum rate is to be fixed according to Paragraph 7b. Tax exempt realty will be entered at 4 per cent. of its rental value, according to the standard fixed in the statutory rules applicable to building tax assessments. In the case of buildings used for church or school purposes and educational or charitable institutions, 2 per cent. instead of 4 per cent. of the rental value shall be taken as the building tax.

B. For agricultural, industrial and building purposes and generally in all cases other than those hereinbefore mentioned (except fire purposes) where it is impracticable to fix the minimum rate on the basis of rental value. Pursuant to the building tax law the minimum quarterly water rate shall be fixed according to the gauge of the meter which is used.

That is:

For	a	meter	from	13	MM.	5	marks	quarterly.
"	"	"	"	20	"	6	"	"
"	"	"	"	26	"	8	"	"
"	"	"	"	33	"	10	"	"
"	"	"	"	40	"	15	"	"
"	"	"	"	50	"	20	"	"
"	"	"	"	80	"	30	"	"
"	"	"	"	100	"	40	"	"
"	"	"	"	125	"	50	"	"
"	"	"	"	150	"	60	"	"

Where several meters are used in connection with one service pipe, the service pipe will be made the basis of the minimum rate.

In the case of real property upon which there is no inhabitable building a reduced minimum rate shall be charged which shall be fixed in each separate instance by the director of the waterworks.

C. Fire hydrants shall be used only in case of fire danger and not for any other purposes. To enforce these requirements the director of the waterworks is authorized to provide such hydrants with a leaden seal, which is forbidden to be broken except in case of danger. Every time a fire hydrant is used, notice of such use shall be given within twenty-four hours to the director of the waterworks. Upon failure to do so the management is empowered to require payment for the water used, and to fix the amount in every case at the minimum of 100 cubic meters.

SEC. 8.—All the work involved in making and perfecting a private connection with a public main shall be done at the expense of the applicant and under the supervision of the director, who will supply the equipment.

This shall include the tapping of the street main; bringing a service pipe at least one meter inside the property line; putting in a street stop-cock on the sidewalk and a house stop-cock with outlet just beyond the meter; the installation of the meter; connecting the service pipe with the interior system, including all work of excavating and replacing pavements.

All service pipes from the street main to the property line shall at once become the property of the waterworks, which will thereafter make all necessary repairs and renewals thereof.

SEC. 9.—The whole matter of the interior plumbing and repairing of interior pipes is left to the property owner. The director of the waterworks will, upon requisition, at any time undertake this work.

SEC. 10.—When a fire breaks out, every consumer is obliged to place his house pipe at the disposition of the fire department. In such cases the consumer may claim a suitable reduction of water charges for consumption as registered on his meter.

SEC. 11.—A consumer can have no claim for damages for interruption in the service or because of failure to obtain water in sufficient quantity or of satisfactory kind or at the desired height. If, however, the service is, through the fault of the waterworks, interrupted for more than ten days, a proportionate reduction of charges may be demanded.

SEC. 12.—The officers of the waterworks must be permitted at all times to have access to all buildings and lots having connection with the water system for the purposes of facilitating service and inspecting the pipes.

SEC. 13.—The water charges and the meter rents are to be paid at the end of each quarter. The bill will be presented and receipted on payment covering the consumption of water, the meter rent and any repair or other work that may have been done by the department as provided in Article 8. If this payment is not made at the office of the waterworks within five days after written demand, collection will be enforced by summary legal proceedings.

The director of the waterworks may, in his discretion, require the deposit of security for installing the service connection and for water consumption. In the case of any infringement of the foregoing provisions the water service may be forcibly cut off.

In effect April 1, 1895.

The enclosed annual report will demonstrate to what details their system is carried. It gives the taxpayer a complete explanation whence all revenues come and for what purpose they are used to the last penny.

Appendix G, Exhibit 2, gives an idea of the system of bookkeeping. It also contains a meter bill, with important regulations and rules on the back.

VIII.—BERLIN.

THE city of Berlin is certainly attractive. The streets are all kept clean. It is not such a great undertaking here, because the streets are all good and in excellent condition. To be sure, the traffic on any one street is not as great as on the congested streets of New York, but they certainly are in much better condition. This I am able to say, because my examinations took me in both old and new Berlin, among the poor as well as the rich. She is municipalizing public utilities as fast as possible, but owing to contracts and concessions it is not rapid.

The population of Berlin, exclusive of the suburbs, is 1,900,000. If the suburbs are included, it amounts to about 2,300,000.

Her sewer system is most wonderfully complete and effective. While I saw a complete model of the entire plant, showing the main sewers and branches, together with a house in sections, showing all the plumbing, the pumping station where the sewage is sucked up and sent to the agricultural fields for irrigation, I cannot enter into a description of it here. Of course, to use the sewage in that manner there must be a deep, very sandy soil, such as is found in the center of Long Island. The vegetable and other crops, as well as trees, grow luxuriantly, but like those grown in the agricultural fields of Paris, do not command as high price in the markets as those grown elsewhere, and are bought chiefly by the poor. This perfect sewer system, together with the filtration of the water, has greatly reduced the mortality in the city, and remarkably so in typhoid fever.

A complete model of the sewer system, together with the agricultural fields, is just completed, to be sent to the Government of Japan.

While it is not in my field, I am constrained to add that it would be well for New York to study the sewage systems of Berlin, Paris and Manchester.

As above indicated, all the water that comes into Berlin is filtered. The system is very comprehensive and is different

from any I have seen. A complete model of the entire water-works, including pumping stations, reservoirs, filter beds and distribution to the houses, is also found in the Municipal Museum. Not being an expert on the subject I am not able to say as to the merits of the system, but it did not appear to me to be the most effective in every particular, especially as regards cleaning and renewals.

The consumption of water is very small, amounting to only about twenty wine gallons per capita daily. However, this was explained as follows: By digging down any place in the city a few feet into the gravel which underlies the entire city an abundance of water is found. The manufacturers and brewers use this water almost exclusively. It is estimated that the water consumed from these wells in the city amounts daily to more than ten wine gallons per capita, which would bring the consumption up to more than thirty gallons, which is very small when compared with New York. All service pipes are metered, and the water is charged for at the rate of 15 pfennigs per cubic meter, which is about the same as in New York. There are about 26,000 meters in use now—all of German make, no American ones. The meters are owned by the city and are furnished to the consumers free of charge. Besides the above meter rate every house which has a service pipe must pay an additional ground tax of 4 marks per quarter, or $4 per year.

There is no system of night inspection and no Deacon Waste-Detecting Meter or analogous system in use, the house meters being the only means of detecting waste. The mains and service pipes are not supposed to leak, and from the low consumption they surely do not, at least to any appreciable extent. One reason for this is found in the fact that all fittings are purchased from manufacturers who are held responsible for them. I find in all my investigation that where the pipes, connections, taps and fittings are thoroughly looked after and put in properly at the start the waste is small and the consumption low.

The regulation regarding the use of water which follows will help to explain why the consumption is low, especially when it is remembered that all these laws, as well as others, are strictly enforced.

REGULATIONS REGARDING THE USE OF WATER FROM THE CITY WATERWORKS OF BERLIN.

SECTION 1.—The City Waterworks furnish water to owners of real property only and by means of meters belonging to the city.

SEC. 2.—The following charges are made per quarter:

a. For each cubic meter, 15 pfennigs (3¾ cents).

b. For each separate property (lot of land) connected with the main byway of initial privilege a ground fee tax of 4 marks ($1). Payment is due at the end of the quarter. The charges are to be collected at the same time as the sewer tax.

SEC. 3.—Where the premises are connected with the Berlin sewer system, the water rates as well as the charges for connection, maintenance, disconnection, shall, in the event of non-payment on demand, be collected from the respective property owners by summary legal process.

Where the premises are not connected with the Berlin sewer system, security must be furnished by depositing money or securities to cover not only the expense of making the connection and of maintenance, but the charges for water to be consumed. The director of the waterworks shall in each instance fix the amount of the security.

SEC. 4.—Where a single property has several water pipes, one general water bill will be made out, and the privilege tax will be collected but once. But where separate bills are requested for several service pipes entering a single property, the ground license fee of 4 marks will be collected for each.

No allowance will be made for waste of water through defective house mains.

SEC. 5.—The meter will be read towards the end of each quarter and in round numbers in tens of cubic meters. Less than five will not be counted and from five to ten will be counted as ten.

SEC. 6.—Where a property, not connected with the general sewer system, changes ownership, the original applicant for water service continues, nevertheless, bound to pay for water thereafter furnished to his successor until he, the applicant, countermands his requisition or the director relieves him from his obligation. It is discretionary with the director of the waterworks, as soon as property changes owners, to demand immediate payment from the applicant for the water consumed up to that time, and in default of payment, to discontinue the service.

SEC. 7.—Where the accuracy of the record of a water meter is questioned, it shall be removed at the landlord's request and shall in his presence be tested in the shops of the City Waterworks, by means of the apparatus there provided, and a report thereon duly made.

Both parties must accept the finding so made.

If the test discloses an error of more than 2 per cent. in the meter's registry, the excess of consumption charged for the previous quarter shall be credited to the consumer, and any deficiency shall be charged to him. In this event the water department bears the expense of the test. On the other hand, where no such error is found, the consumer who has

requested the test shall pay the expense of it, which, including cartage, is as follows:

For testing a	12-25	millimeter	meter,	6	marks.
"	40	"	"	9	"
"	50	"	"	12	"
"	75	"	"	15	"
"	100	"	"	18	"
"	150	"	"	24	"

SEC. 8.—Every application for water service is good indefinitely. Notices of discontinuance must, when given by the consumer, be in writing, and when given by the director of the Water Department, may be either by written notice or by publication in the officially designated papers.

When a connection is no longer used it may be closed up by the department.

The expense of cutting a connection and all the work incident to it shall be paid by the owner of the property.

SEC. 9.—The director is authorized to cut off all further water supply from a property not connected with the general sewer system whenever the owner:

a. Violates these regulations.

b. Fails to pay sums that may be due from him under Section 7 above.

c. Fails to pay charges for installation and maintenance of pipes and apparatus.

And this shall not prejudice or waive any right to enforce other penalties.

SEC. 10.—The consumer shall not be entitled to claim any indemnity or damages for an interruption of the supply or use of water where this latter results from an unusual cause not the fault of the water department.

SEC. 11.—No property shall be supplied from an adjoining or neighboring property. Each property must have its own separate service connection from the street main.

SEC. 12. The connection from the principal main in the street to within two meters of the property line will be made by the department at its expense. From that point to one meter beyond the meter box, including the construction of the latter, the setting of the free meter, the stop-cock, etc., and the appurtenance, the installation will be made at the expense of the landlord by the department in its own discretion and shall be kept in order according to its requirements and may be altered upon its request. If the landlord requests, and the director approves, any additional service pipes for a single property (fire hydrant, etc.), or the existing connection is altered or enlarged, the landlord shall pay all the expense.

SEC. 13.—The meter must be placed where the house main enters the property, if possible not more than a meter from the street line.

SEC. 14.—But in any event the meter must be so placed that:

a. Surface water, sewage, filth, etc., cannot flow into the box.

b. The meter shall not be exposed to frost or other injurious influences such, for example, as in beer or vinegar cellars.

c. Access to the meter for reading the register or for installing or removing it can be had without hindrance.

SEC. 15.—The consumer is not permitted to make any alterations in the meter or its appurtances and must make good any damage that may result to them through his fault or neglect. He must keep them protected from frost, clean and at all times accessible and in good order, and must not use them for any other than their true purpose.

SEC. 16.—No alteration or addition must be made to the house main outside the meter or within one meter's distance inside the same, and especially shall neither cock nor branch be attached to it.

SEC. 17.—The principal pipes inside the premises must be of a diameter proportionate to their own length, the intended water consumption and the number of openings. The following shall be taken as a guiding rule:

Where the principal house or service main is under thirty meters in length the diameter of the inside pipes shall be in proportion to the number of openings of from eight to thirteen millimeters.

For one to two service faucets a pipe must be at least twenty millimeters in diameter.

For three to twenty service faucets a pipe must be at least twenty-five millimeters in diameter.

For twenty-one to forty service faucets a pipe must be at least thirty millimeters in diameter.

For forty-one to sixty service faucets a pipe must be at least forty millimeters in diameter.

For over sixty service faucets a pipe must be at least fifty millimeters in diameter.

In this estimate one water-closet equals two faucets; one urinal equals two faucets; one bath tub equals one faucet; one laundry-tub equals one faucet.

Special understanding must be reached in regard to floating-ball cocks, fountains, etc. Where the main service pipe exceeds thirty meters in length, it must in no event be less than forty millimeters in diameter.

SEC. 18.—In large establishments, especially for commercial purposes, the director of the waterworks shall in each separate case determine the minimum capacity of the service pipe to be required.

SEC. 19.—It is permissible for a landlord to put in a larger service pipe than the minimum required.

SEC. 20.—The director reserves the right in all cases to fix the size of the pipe which connects the street main with the house main and also the capacity of the meter.

SEC. 21.—It is in the discretion of the landlord to determine the strength of the lead pipes used inside the premises for distribution.

It is, however, urgently recommended that only such lead pipe be used as possesses uniform thickness, and at least the following weight:

Lead pipe of twelve millimeters inner diameter, per meter, 2.2 Kg.
Lead pipe of twenty millimeters inner diameter, per meter, 5.0 Kg.
Lead pipe of twenty-five millimeters inner diameter, per meter, 6.6 Kg.
Lead pipe of thirty millimeters inner diameter, per meter, 7.7 Kg.
Lead pipe of forty millimeters inner diameter, per meter, 11.0 Kg.

SEC. 22.—Cast-iron pipes that are used must be painted with asphalt.

SEC. 33.—Unzinkified wrought-iron pipes must in no case be used.

Zinkified wrought-iron piping can only be used by permission of the director.

SEC. 24.—It is not permissible to make a direct connection between different city water pipes or between these and any other conduits or with drain pipes, even with the introduction of automatic valves, stop-cocks, etc. On the contrary, all outlets from the water pipes must be so placed that the water can flow in a free visible stream from above the level of tanks, receptacles, basins, tubs, etc., thereby preventing the possible return into the service system of water that has once passed out through the distributing pipes.

SEC. 25.—Direct connection shall, under no circumstances, be made between pipes that are fed from the city waterworks and steam boilers or heating systems. Such connection for the purposes of hydraulic elevators, force pumps and motors shall be made only after special permission is granted by the director.

SEC. 26.—All cocks that are used to cut off the waterflow into tanks, or as faucets or as intermediate stop-cocks, whether placed in kitchens, living apartments, gardens, courtyards, factories or elsewhere, must be of a kind to close the pipe absolutely and prevent any possibility of back flow.

SEC. 27.—The consumer is obliged at all times to give the officers of the city waterworks ready access to the water pipes, meter and appurtenances, and at all times to permit the meter to be changed or cleaned.

BERLIN, January 16, 1901.

HAACK, Representing the City Waterworks.

The foregoing regulations are approved.

BERLIN, January 17, 1901.

KIRSCHNER, Magistrate of the Royal Capital and Residence, City.

All the meters are read once per month; many are read every week. There are forty-three inspectors. Their hours are from 8 to 12 and from 2.30 or 3 to 7. They, as well as the clerks, are appointed by the Council, and for life. Five years ago they could be discharged. Now only for cause, and the one discharged may contest it and appeal finally to the Ministers of State. They are all pensioned on a graded scale, according to service and salary, in like manner to State officials. I was introduced to and congratulated a chief of one of the departments who was 63 years old, who on the 21st of October, 1902, celebrated the fiftieth anniversary of his entrance into the service of the city.

The water rates are paid quarterly to collectors.

The salaries range from 1,300 to 2,200 marks ($325 to $550) a year, beginning at the lower figure and increasing at the rate of 60 marks a year. There are four head controllers, who receive salaries from 2,000 to 3,300 marks ($500 to $825) a year. They

begin at the lower figure, and at the end of eighteen years' service they receive the higher figure.

It will be seen from the above regulations that in order to receive water the landlord must make an application for water connection, giving full particulars. After investigation an agreement is entered into. The form of the application as well as of the agreement is in Appendix H, Exhibit 1.

The system of accounts is somewhat different from those before given. The officials were very courteous and gave me a full set of forms, some of which are in Appendix H, Exhibit 2, duly marked.

I am sending you herewith some printed matter and reports which will help you to an understanding of the municipal government, especially as they show the detail to which everything is carried out.

Every five years there is published a large book, giving in detail an exact report of all the transactions for the previous five years, showing in detail all receipts, disposition and disbursements of moneys. This report is not for free distribution, but is sold at 6 marks ($1.50), which was paid for the one sent you.

A complete roster is published in a book of nearly 550 pages, called a "Personal Reference of the Whole Administration of Berlin." This contains the names and addresses of all the officials, clerks, etc., together with all foundations, whether charitable or otherwise, with information concerning the same. In fact, everything with which the city government has to do. This book is for free distribution. There is also published a budget, giving fullest information down to the minutest detail. This is also for free distribution.

In addition to this there is a personal or special budget, entering more into detail regarding salaries, etc.

Of course, besides all this there is the annual report. A copy of that of the Water Department will be found with the above papers.

In the last three cities reported on the meter system is universally adopted, or so nearly so as to permit me to speak of them in that manner. My examination of these cities has not changed my views as expressed in the early part of my report. I fully believe that all waste of water can be detected and stopped, both inside and outside the houses, with one exception, without the

use of a single individual registering meter. The exception is where the waste is wilfully or negligently caused by letting faucets run during the daytime or using period.

GENERAL REMARKS.

I could say considerable in reference to the governments of municipalities visited, but it does not come within the purview of this report, and it will be reserved possibly for another time.

In Appendix I a few statistics are given concerning the Water Departments in over eighty cities in Great Britain and Ireland. I trust they will be at least interesting to you if you are not already in possession of them. Of course, it must be borne in mind that the gallon used is the imperial gallon, which is 20 per cent. larger than the wine gallon, used in New York.

The population given is not the population of the cities only, but includes all the population in the water district, which is often larger than the city. It is interesting to note that in Wellingborough, where the daily per capita consumption is only 8.33 gallons, the death rate per 1,000 is the lowest. On the other hand, in the city of Hamilton, where the daily per capita consumption is 53 gallons, the death rate per 1,000 is the highest. Perhaps the question of water consumption had nothing to do with this; nevertheless, the coincidence is interesting.

It must not be understood that these cities I have visited are perfect in government or in any other particular. While I may have seen many things none of us would approve of, and many that we would regret to have become, even in a small degree, a part of our system, it was not considered by me within my commission to make criticisms or find fault. I have, therefore, confined myself to those subjects set forth in the foregoing report, and I trust it will not be regarded as a criticism lauding the foreign cities to the detriment of our own great and superb city, for with all her many faults, I would have no other city I have seen for my home.

I have endeavored not to use any technical terms or phrases, appreciating the fact that my report is the report of a layman to laymen, and is subject to the perusal and criticism of any expert who may deem it worth while to examine it.

The above report is most respectfully submitted.

COLUMBUS O. JOHNSON.

Berlin, Germany, October 17, 1902.

Appendix A—Exhibit 1.

WATER-WORKS.

for the Year 1901-1902 made this day of , 1901, also Charges for the Supply of Water for other than Domestic Purposes, for said Year.

LANDLORDS. Domestic Water Rate of 10d. per £ on Dwelling Houses. Under £7	£7 and not exceeding £10	Domestic Water Rate.	Rate 1d. in the £.	Charges for Supply for other than Domestic Purposes.	TOTAL.	Amount Paid.	Abatements.	Costs Paid.	Cash Book Page.	Arrears.	DETAILS OF ARREARS. Domestic Rate.	Public Rate.	Trade Rate.	ADDITIONS. Domestic Rate.	Public Rate.	Trade Rate.
					SUMMARY.											
Within Municipality		£ s. d. 45734 16 6	£ s. d. 20166 4 10½	£ s. d. 24302 10 4½	£ s. d. 90208 11 9	£ s. d. 89915 11½	£ s. d. 2476 11 1½	£ s. d. 297 7 8½		£ s. d. 288 10 9½	£ s. d. 144 10 8		£ s. d. 144 1½			
Without	Do. North	15749 16 3½		3468 15 7	19218 11 10½	19152 9 7½	1102 12 6½	93 5 9½		66 2 3	42 4		24 1 11			
Do.	Do. South	13671 1		2068 8 8½	15739 9 8½	15691 9 4½	474 8 7	74 7 6½		48 4	38 5		9 19 11			
		75155 13 9½	20166 4 10½	29839 14 8	125161 13 4	124758 19 11½	4053 12 3	485 1 ½		402 18 4½	224 11 5		178 1 11½			
		Meters—Within			68971 18 9	68949 2 11		1 7 8		22 15 10						
		Do. —Without			23549 12 10	23549 6 6		6		10 6 4						
		Hydraulic Power Works			9703 12 7	9703 12 7										
		River Supply Works			3425 19 10	3425 19 10										
		Builders			1865 19 6	1865 19 6										
		Annuals Within			2686 8 1	2681 10 3		5 2 4½		4 17 10						
		Do. —Without			868 18 11	865 9 7		1 12 11		3 9 4						
					235744 3 10	235300 1 1½		473 10		444 2 8½						
Rate for Pumping		Domestic—North		148 7 5½												
		TradeChargesWithout		45 14 11												
		Annuals Do.		2 4 6												
		Meters—Within		130 17 7												
		Do. —Without		775 17 1												
		Builders		4 11 6												
					1107 13 0½	1107 13 0½										
					236851 16 10½	236407 14 2		473 10		444 2 8½						

SUMMARY, YEAR 1901-2.

		Amount of Accounts Rendered.	Amount Posted in Rate Books.	Revenue Book	Revenue Over.	Revenue Short.	
Within Municipality	Domestic	45,734 16 6	45,590 5 10	45,591 7 4	1 1 6		
	Less Arrears	144 10 8					
	Public	20,166 4 10½	20,166 4 10½	20,165 4 10		1 0½	
	Less Arrears						
	Trade Charges	24,302 10 4½	24,158 10 3	26,843 19 9½	3 19 3½		
	Less Arrears	144 1½					
	Annuals	2,686 8 1	2,681 10 3				
	Less Arrears	4 17 10					
	Meters	68,971 18 9	26,840 6	68,949 2 11			
	Less Arrears	22 15 10	68,949 2 11				
Without Municipality	Domestic	29,420 17 3½	29,340 16 6½	29,350 5 4	9 8 9½		
	Less Arrears	80 9					
	Trade Charges	5,537 4 3½	5,503 2 5½	5,856 1 1		12 10 11½	
	Less Arrears	34 1 10					
	Annuals	368 18 11	365 9 7				
	Less Arrears	3 9 4					
	Meters	23,559 12 10	5,868 12 0½				
	Less Arrears	10 6 4	23,549 6 6	23,549 6 6			
	Builders	1,865 19 6	1,865 19 6	1,865 19 6			
	Rate for Cost of Pumping Water	1,107 13 0½	1,107 13 0½	1,107 13 0½			
	Arrears		55 3 2½	55 3 2½			
	Costs		473 10	473 13 0½	3 0½		
	Hydraulic Power Works	9,703 12 7	9,703 12 7	9,703 12 7			
	River Supply Works	3,425 19 10	3,425 19 10	3,425 19 10			
			£236,936 7 4½	236,937 9	14 12 7½	13 11	Revenue over £1 1 7½
	Less Abatements Within	2,476 12 3½					
	" " Without	1,577 8 1½	4,054 5	4,054 5			
			232,882 6 11½	232,883 8 7			
	Ground Annuals and Rents			684 2 2			
	Hay Sold at Mugdock			41 12 11			
	Testing and Stamping Department			438 13 5			
	Rents Paid by Workmen H. P. W.			64 7 2			
	Rent of Grazing Ground R. S. W.			9			
				£ 234,121 4 3			
	Total of Accounts Rendered	236,851 16 10½	The Percentage of Arrears on Amount of Accounts Rendered is			£ 3 9....	
	" Arrears	444 3 8½					

Appendix A—Exhibit 2.

GLASGOW CORPORATION WATER WORKS.

TABLE OF RATES AND CHARGES FOR SUPPLIES OF WATER AND TERMS AND CONDITIONS OF SUPPLY, 1901-1902.

DWELLING HOUSES.

DOMESTIC RATE.

Within Municipality.—5d per £ on Annual Value of Premises.

Without Municipality.—10d. per £ on Annual Value of Premises.

NOTE.—In all cases where Pumped Water is supplied for Domestic Purposes beyond the Municipality, the Proprietors shall be charged with the extra cost of pumping in terms of Act of Parliament.

PUBLIC WATER RATE.

1d. per £ on Annual Value of all Premises within the Municipality.

OTHER THAN DOMESTIC PURPOSES.

GENERAL CHARGES.

Private Tap—

Not exceeding £15	each,	£0	5	0
Above £15 and not exceeding £25	"	0	7	6
" £25	"	0	10	0

Each Employé above ten, 6d. additional.

Tap, common to more than one Tenant—

Not exceeding £15	£0	3	0
Above £15 and not exceeding £25	0	4	0
" £25	0	5	0

Each Employé above ten, 3d. additional.

Private Closet—

Minimum charge	each,	£0	5	0

Each Employé above ten, 3d. additional.

Closet, common to more than one Tenant—

Not exceeding £15	£0	3	0
Above £15 and not exceeding £25	0	4	0
" £25	0	5	0

Each Employé above ten, 3d. additional.

Closets having one Seat	£0	5	0
" *more than one seat,* each Seat additional	0	2	6

Private Urinal, when not charged for Closet—

Minimum Charge	each,	£0	5	0

Each Employé above ten, 3d. additional

Urinal, common to more than one Tenant—

Each Tenant, 3s.; each Employé above ten, 3d. additional.

Leather or India-Rubber Hose, when used for any purpose—

10s. and upwards, according to Special Agreement, to be made with the Corporation before Hose is used.

Pumped Supply Beyond the Municipality double the foregoing charges.

SPECIAL CHARGES.

Bakers and Pastry-Cooks—
By General Charges.
Or Each Worker £0 4 0
Or by Meter.

Beer Engines—
20s. and upwards.

Bottlers, Soda-Water Manufacturers, etc.—
By General Charges, or in the option of the Corporation.
50 Gross Bottles per annum, or under..... £0 7 6
Every 50 Gross, or part thereof, additional..... 0 2 6
Or by Meter.

Bowling-Greens—
Each Member £0 0 6
Or by Meter.

Brickmakers—
By Meter.

Builders, Slaters, and Plasterers—
Each Tap in yard, and Small Jobbings outside.... £0 15 0
Without Tap in yard, and Small Jobbings outside.. 0 7 6

Calenderers—
By General Charges.
Each Press, additional..... £0 3 0
Or by Meter.

Causewaying—
Concrete under Causeway, per 1000 square yards.. £0 10 0
Grouting, additional, per 1000 square yards..... 0 2 6

Churches and Mission Halls—
Tap .....each, £0 5 0
Closet or Urinal..... " 0 5 0
Or by Meter.

Confectioners' Workshops—
By General Charges.
Or Each Worker £0 2 6
Or by Meter.

Curriers—
Tap .....each, £0 10 0
For Each Worker above one, 7s. 6d. additional.
Without Tap, Each Worker..... 0 5 0
Or by Meter.

Dyers and Scourers—
By Meter.

Factories, Foundries, Engine-Works, and other Workshops—
By General Charges, or by Meter.

Farm Steadings—
By Meter.

Fields (Pasture)—

By General Charges, or in the option of the Corporation,

Per Acre £0 3 0

Or by Meter.

Fish Curers—

30s. to 60s., according to business.

Or by Meter.

Fishmongers—

7d. per £ on full Annual Value of Premises.

Or by Meter.

Gardens, Bleaching-Greens, etc.—

By General Charges, or in the option of the Corporation.

Not otherwise charged—per Rood, 5s.

Gas Engines (Horizontal and Perpendicular)—

Under ½ Horse Power.....	Per Annum,	£0	2 6
From ½ " to 4 Horse Power...	"	0	5 0
" 4 " to 8 "	"	0	10 0
" 8 " to 12 "	"	0	15 0

Or by Meter.

Ham Curers—

Tap in Store	each,	£0	15 0
Boiler on Premises	"	0	15 0

Or by Meter.

Harmoniums—

When driven by Water..... £1 0 0

Heating Apparatus by Water—

In Churches £0 5 0

In Shops and Warehouses, 2s. 6d. and upwards.

Hoists and Hydraulic Engines—

By Meter.

Horses and Cattle—

By General Charges, or in the option of the Corporation, as follows:

(Not otherwise Charged.)

Horse	each,	£0	2 0
Mule	"	0	2 0
Ass	"	0	2 0
Cow	"	0	2 0

Or by Meter.

Hotels—

7d. per £ on full Annual Value of Premises.

Or by Meter.

Laundries—

10s. and upwards, according to business.

Or by Meter.

Lawn Tennis Clubs—

Each Court		£0	10 0
" Tap		0	5 0
" Closet		0	5 0

Or by Meter.

Letterpress Printers and Lithographers—

By General Charges.

Press, additional	each,	£0	2	0
Small Machines, additional.....	"	0	5	0
Medium " "	"	0	7	6
Large " "	"	0	15	0

Or by Meter.

Licensed Grocers—

By General Charges, or in the option of the Corporation.

3d. per £ on full Annual Value of Premises.

Maximum Charge	£4	0	0
Minimum "	0	10	0

Or by Meter.

Livery Stables—

By General Charges, or in the option of the Corporation.

Each Stall or Box	£0	2	0

Or by Meter.

Marble Cutters—

By General Charges.

Each Saw Blade, additional.....	£0	5	0
Each Polisher, "	0	5	0

Or by Meter.

Milk Shops—

7d. per £ on full Annual Value of Premises.

Milk Cooling Troughs and Cattle Additional.

Or by Meter.

New Buildings

Masons	½ per cent. on Estimate.
Bricklayers and Plasterers.....	½ " "
Concrete	½ " "

Or by Meter; the Minimum Charge to be £4 per annum, payable in advance; the first £4 to be paid when application is lodged, with 10 per cent. per annum on cost of Meter as Meter hire.

Offices, Shops, and other Places of Business, or in connection therewith—

Without Common Tap—not exceeding £15 Rent..	£0	2	0
Above £15 and not exceeding £25.....	0	3	6
" £25	0	5	0

Organs—

When driven by Water.....	£2	0	0

Photographers—

By General Charges.

Photographic Tap	each,	£0	15	0
Without Tap, Minimum Charge.....	"	0	7	6

Or by Meter.

Restaurants, Eating Houses, Tea Rooms, etc.—

7d. per £ on full Annual Value of Premises.

Or by Meter.

Schools and Seminaries—

Tap .....each, £0 10 0
Closet or Urinal..... " 0 5 0
Without Tap ..... " 0 5 0

Or by Meter.

Shops in Connection with Dwelling-Houses—

Two-Thirds of full Annual Value to be held Shop Rent, and the other One-Third House Rent.

Steam Boilers—

Each 20s. and upwards.

Or by Meter.

Steam Engines—High Pressure—

Diameter of Cylinder.	CHARGE.			Diameter of Cylinder.	CHARGE.		
Inches.	£	*s.*	*d.*	*Inches.*	£	*s.*	*d.*
2	0	6	0	4½	1	4	0
2½	0	7	6	5	1	10	3
3	0	9	3	5½	1	17	6
3½	0	18	6	6	2	5	3
4	0	18	3		Or by Meter.		

Above 6 inches by Meter.

Taverns, Spirit Shops, and Cellars—

(Where Drink is consumed on the Premises.)

7d. per £ on full Annual Value of Premises.

Or by Meter.

(Where Drink is not consumed on the Premises.)

With Tap (according to business).....20s. to 60s.
Without Tap " " .....10s. to 30s.

Or by Meter.

Vehicles—

By General Charges, or in the option of the Corporation.

Not otherwise Charged.

Four-Wheeled Carriage .....each, £0 8 0
Two-Wheeled Carriage ..... " 0 6 0
Hearse ..... " 0 6 0
Four-Wheeled Van or Lorry..... " 0 2 0
Two-Wheeled Van ..... " 0 2 0

Or by Meter.

Pumped Supply Beyond Municipality double the foregoing Rates and Charges.

SUPPLIES BY METER.

I.—Loch Katrine and Gorbals Water.

(1.) *Gravitation Supply—*

At a Rate of £1 13s. 4d. per 100,000 Gallons.

Minimum Charge, £2 per Annum, payable at the end of the First Quarter.

Churches—Minimum Charge..... £1 10s. per Annum.
New Buildings " ..... £4 "

(2.) *Pumped Supply*—

At a Rate of £3 6s. 8d. per 100,000 Gallons.

Minimum Charge, £4 per Annum.

Meter Rents—For	½ in.	Meter.....	£0	6	0	per Annum.
"	¾ in.	"	0	7	6	"
"	1 in.	"	0	10	0	"
"	1½ in.	"	0	15	6	"
"	2 in.	"	1	4	0	"
"	3 in.	"	1	14	0	"
"	4 in.	"	2	8	0	"
"	5 in.	"	3	10	0	"
"	6 in.	"	4	6	0	"
"	New Buildings—10 per cent. on cost					"

II.—River Supply Water.

At a Rate of 15s. per 100,000 Gallons.

Minimum Charge, £14 3s. 5d. per Annum.

Meter Rent—10 per cent. on Cost additional.

Supplies for purposes not above specified to be by Special Agreement made with the Corporation, before a supply can be taken or used, and, failing such an Agreement, the Charge shall be fixed by the Surveyor for the Corporation.

Appendix A—Exhibit 3.

(RATE BILL TO CONSUMERS FOR DOMESTIC USE)

A Sec. ____
No.

PAYABLE AT THE CITY CHAMBERS, No. 45 JOHN STREET.

GLASGOW CORPORATION WATER-WORKS. 1902-1903.

Mr. ..... {Or Occupier of the Premises.}

..... Street.

THESE CERTIFY that you are ASSESSED and RATED, and held liable, under "THE GLASGOW CORPORATION WATER-WORKS ACT, 1855," for the period *from 28th May, 1902, to 28th May, 1903* in the following RATES, viz.:—

	£	:	:	£	:	:
DOMESTIC WATER RATE on Annual Value of £ , at 5d. in the Pound, ...						
PUBLIC WATER RATE (Payable by Owner), on Annual Value of £ , at 1d. in the Pound, ...						
	£	:	:	£	:	:

Which Rates you are hereby required to pay *on Receipt*, or at latest *within One Month* from the date hereof,

At the City Chambers, No. 45 John Street.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer) within said Month: or you may obtain redress, without the necessity of an appeal, by personally calling upon and satisfying the Surveyor, within said period, that your complaint is well founded.

APPEALS AGAINST RENTAL SHOULD BE ACCOMPANIED WITH VALUATION SCHEDULE.

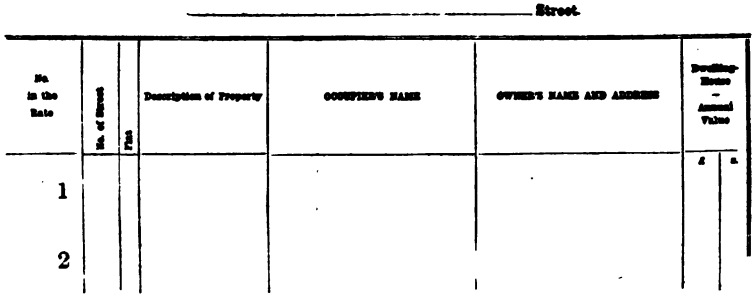
Payment may be made by Cheque (including Bank charge) or Post-Office Order, payable in Glasgow to the Treasurer, *if accompanied by a Stamped Envelope. Stamps will not be accepted in payment.*

ROB. WILSON, TREASURER.

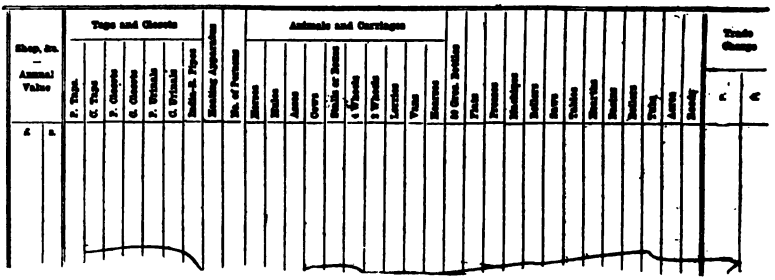
PLEASE PRESERVE THIS DOCUMENT, AND PRESENT IT ON PAYMENT.

Office Hours, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 on Saturdays.

[See other Side.



WATER SURVEY, 1901-1902-1903.



REVERSE SIDE RATE BILL TO CONSUMERS FOR DOMESTIC USE.

On Neglect or Failure to pay, the Water may be Cut Off, in terms of 10 Victoria, Chap. 17, Sec. 74, until Payment be made, together with the Expense of Cutting Off and restoring the Supply.

Complaints regarding the Supply to be made personally, or by letter, addressed to the Engineer, at the Office, 45 John Street, Glasgow.

The Inspectors of Water-Fittings being all ordered to wear, while on duty, Uniform Caps lettered G.C.W.W., Ratepayers are cautioned against admitting into their Premises, on pretence of inspecting, or otherwise, any Person, on behalf of the Corporation, who does not wear this Distinguishing Badge.

RATE BILL FOR TRADE USES.

A Sec. No.

GLASGOW CORPORATION WATER-WORKS. 1902-1903.

Mr. ..... {Or Occupier of the Premises,}

..... Street.

PAYABLE AT THE CITY CHAMBERS, No. 45 JOHN STREET.

	No.	£	s.	
Private Taps, ...				
Common Taps, ...				
Private Closets, ...				
Common Closets, ...				
Private Urinals, ...				
Common Urinals, ...				
India-Rubber Pipes,				
Heating Apparatus,				
Persons, ...				
Horses, Cows, &c., ...				
Stalls or Boxes, ...				
4-Wheeled Carriages				
2-Wheeled Carriages				
Hearses, ...				
Lorries or Vans, ...				
50 Gro. Bottles, ...				
Flats, ...				
Presses, ...				
Machines, ...				
Rollers, ...				
Saws, ...				
Polishers, ...				
Tubs, ...				

To the CORPORATION of the CITY of GLASGOW, acting under "The GLASGOW CORPORATION WATER-WORKS ACTS, 1855 to 1895."

To RATE or CHARGE for SUPPLIES of WATER for other than DOMESTIC PURPOSES (in terms of Section 22 of "The Glasgow Corporation Water-Works Amendment Act, 1879," furnished and taken on the Terms and Conditions printed on the back hereof), for the period from 28th May, 1902, to 28th May, 1903, ... £ : : £ : :

Which Rate you are hereby required to pay *on Receipt*, or at latest *within One Month* from the date hereof,

At the City Chambers, No. 45 John Street.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer) within said Month; or you may obtain redress, without the necessity of an appeal, by personally calling upon and satisfying the Surveyor, within said period, that your complaint is well founded.

APPEALS AGAINST RENTAL SHOULD BE ACCOMPANIED WITH VALUATION SCHEDULE.

Payment may be made by Cheque (including Bank Charge) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope. Stamps will not be accepted in payment.

ROB. WILSON, TREASURER.

PLEASE PRESERVE THIS DOCUMENT, AND PRESENT IT ON PAYMENT.

Office Hours, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 on Saturdays.

[See other Side.

REGULATIONS ON BACK OF PRECEDING BILL.

TERMS AND CONDITIONS ANNEXED TO TABLE OF RATES AND CHARGES,

FOR SUPPLIES OF WATER FOR OTHER THAN DOMESTIC PURPOSES,

Exhibited on the Walls of the Corporation Water Office, for the inspection and information of all concerned.

1.—All Contracts shall be for one year from 28th May, and the charge made for that period. In the case of Premises unoccupied at that date, a rateable proportion will be charged from the time of entry.

2.—Occupiers of Premises for manufacturing, trade, or business purposes, using the Water, shall be charged in conformity with the foregoing Table.

3.—Premises which may, after the time of survey, be enlarged, or Water used for any other purpose than has been charged or paid for, shall be subject to an increased Rate.

4.—The Rates and Charges made for Water, supplied otherwise than by Meter, being payable in advance, must be paid on demand.

5.—Security for payment of Rates and Charges to be given to the Treasurer when required by him.

6.—Parties taking Water, without Agreement, shall be bound to pay such Rates and Charges as the Corporation may fix, in addition to the Penalties imposed by the Corporation Acts, or the Acts incorporated therewith.

7.—Before Water is turned on to any Premises, the Corporation, or their Engineer, must be satisfied respecting the fittings, and the mode of distributing the Water through the Premises, so that it may at all times be easily measured by Meter, and any proposed alteration must be communicated to, and approved of, by the Corporation, or their Engineer, before being executed.

8.—The Corporation will not be responsible in any way for, nor be bound to pay any damage or loss which may be alleged to have arisen from interruptions of supply arising from accidents, or causes beyond their control.

9.—No connection will be allowed to exist in any Premises between the pipes conveying Loch Katrine or Gorbals Water, and those conveying Water supplied or taken from any other source, nor must any such connection be made.

10.—Parties refusing or delaying to allow the Corporation Surveyor inspection of their Premises when required, shall be liable to pay the full Rates as estimated by him.

11.—Consumers of Water beyond the limits of compulsory supply will be charged, in addition to the Rates, One Penny per Pound on the full annual value of their Premises, and the same shall be included in, and paid along with, the Account for supplies of Water for other than domestic purposes.

12.—In the event of the Water Rates and Charges not being paid as requested, the supply may at any time thereafter be stopped until payment be made, together with all expenses incurred, in terms of the Water-Works Clauses Act, 1847 (10 Vic., cap. 17, sec. 74).

13.—The Corporation shall fix what Premises ought to be supplied with Water by Meter, and be entitled, at any time, to place a Meter temporarily within the Premises of any Consumer, to ascertain the quantity used.

14.—Meters will be provided and maintained in repair by the Corporation, at the charges specified in the Table of Rates, which charges shall be included in, and paid along with, the account for the First Quarter. Meters must be properly protected by the Consumer, and, in the event of their being damaged by *Frost, Fire, or Accident*, the cost of repairing the same shall be paid by the Consumer. In the case of Meters supplying machinery propelled by the Water, the expense of repairing any damage by way of burst, fracture, or otherwise, which may take place, together with the cost of repairing the same, or another Meter, shall also be paid by the Consumer, and every such Machine must have an Air Vessel and a Relief Valve attached to it at the expense of the Consumer, and which shall thereafter be maintained by him.

15.—The Corporation shall not be liable for any damage done by the bursting of, or leakage of Water from any part of a Meter, to the Premises in which it is placed, or to the goods manufactured, stored, or kept in such Premises, unless such damage shall be proved to have arisen from, or been caused by, the fault or negligence of the Corporation or their servants, or by some defect in the Meter patent at the time when the same was furnished to the Consumer.

16.—Should the Meter stop working, or fail to indicate the quantity of Water consumed, the Consumer must give immediate notice thereof to the Engineer, at the Corporation Water Office, and the quantity of Water consumed during any period when a Meter may be out of order shall be estimated and finally fixed by the Corporation from what they may consider to be the most reliable data at their command.

17.—No Meter shall be removed, or in any way disturbed, nor the seal broken, except in the presence or under the direction of an Officer of the Corporation.

18.—All Accounts for Water supplied by Meter shall be rendered, as nearly as practicable, quarterly, and must be paid on demand.

19.—The Corporation will provide all materials and execute all work necessary in connection with the introduction of Water to be supplied by Meter, up to the Meter, including pipes, in so far as the same consists of cast iron, and the whole cost thereof shall be charged against the Consumer, and paid on demand. When the supply is discontinued, intimation thereof must be given in writing to the Corporation by the Consumer, when the Meter will be removed.

RIVER SUPPLY WATER.—Additional Terms and Conditions.

1.—That the maximum supply per day be fixed in each case, and that the minimum be 6,000 gallons a day, equal to an annual payment of £14 3s. 5d., at 18s. per 100,000 gallons.

2.—That all the Water be discharged into cisterns, the height of which above the surface of the ground is to be fixed by the Engineer of the Corporation.

3.—That the flow into the cisterns be constant and regular, or at no time greater than will discharge the maximum day's supply in ten hours; and

4.—That the charge to the Consumer, in respect of the providing and maintenance of Meters, will be Ten per Cent. per annum upon their cost.

The foregoing TABLE of RATES and CHARGES, TERMS and CONDITIONS of SUPPLY, will, upon being published in the manner required by the Corporation Water Acts, be held as agreed to by all concerned, and will form a CONTRACT between the Corporation and the Water Consumers, without further stipulations, and without prejudice to the whole Powers, Provisions, and Penalties contained in "The Glasgow Corporation Water-Works Acts, 1855 to 1895."

BY ORDER.

Note—Complaints regarding the supply of Water to be made personally, or by letter addressed to the Engineer at the Office, 45 John Street, Glasgow.

The Inspectors of Water-Fittings being all ordered to wear, while on duty, Uniform Caps lettered G.C.W.-W., Ratepayers are cautioned against admitting into their Premises, on pretence of inspecting or otherwise, on behalf of the Corporation, any person who does not wear this distinguishing Badge.

FORM ACCOMPANYING ALL RATE BILLS, EXPLANATORY OF CHARGE.

Payable immediately at the City Chambers, No. 45 JOHN STREET. Office Hours, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 on Saturdays.

NO FURTHER NOTICE WILL BE GIVEN

A Sec.

Glasgow Corporation Water-Works. 1901-1902.

Mr. .....

THESE CERTIFY that you are Assessed and Rated, and held liable under "THE GLASGOW CORPORATION WATER-WORKS ACT, 1855," and relative Amendment Acts, for the period from *28th May, 1901, to 28th May, 1902*, in the following Rates, viz.:—

DOMESTIC WATER RATE on Dwelling-Houses £10 and under.

PUBLIC WATER RATE on Annual Value of Property.

Which Rates you are hereby required to pay on *receipt*, or at latest within *Fourteen Days* from the date hereof, at the City Chambers, No. 46 John Street, Glasgow.

By the Amendment Act of 1865, 28 Vict., Cap. 69, it is specially "*provided that no Abatement whatsoever shall be Claimable by, or Allowed to, any such Owners who shall not pay the Domestic Water Rate when due, and demanded*," as it now is.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer), within the said Fourteen Days; or you may obtain redress without the necessity of an appeal, by personally calling upon and satisfying the Surveyor, by producing your Valuation Schedules, or otherwise, within said period, that your complaint is well founded.

Payment may be made by Cheque (including Bank charge) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope.

Ten per cent. additional is due and recoverable as costs, if Rates are not paid as required.

ROB. WILSON, Treasurer.

PLEASE PRESERVE THIS DOCUMENT, AND PRESENT IT ON PAYMENT.

No. in Rate Book.	NAME OF OCCUPIER.	No.	STREET.	Annual Value of Property.	Annual Value of Dwelling-Houses.	Domestic Rate of 1d. per £ on Dwelling-Houses. Under £7.	Domestic Rate of 1d. per £ on Dwelling-Houses. £7, and not exceeding £10.	Public Water Rate 1d. per £ on Annual Value of Property.	TOTAL.	Deductions. D.R. Under £7.	Deductions. D.R. £7 to £10.	Deductions. P.R.	Additions. D.R. Under £7.	Additions. D.R. £7 to £10.	Additions. P.R.
				£ s.	£ s.	s. d.	s. d.	£ s. d.	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Public Water Rate on Annual Value of Property.														
	Domestic Water Rate on Houses £10 and under, viz.:—														

Section No.

St., F.

1901-1902.

	£	:	:	£	:	:
D.						
F.						
S.						
	£	:	:	£	:	:

Costs,

250

Sec. No.

Glasgow Corporation Water-Works. 1901-1902.

Mr. _____ *Street.*

Dr. for the following Rates, for the period from 28th May, 1901, till 28th May, 1902, viz.:—

	£	:	:	£	:	:
Domestic Water Rate, - - - -						
Public Water Rate (*Payable by Owner*),						
Supplies of Water for other than Domestic Purposes,						
	£	:	:	£	:	:

Costs,

Received Payment, _____ *Treasurer.*

250

FIRST NOTICE OF UNPAID BILL.

A Sec. No.

LAST NOTICE.

WATER RATES.

.....{Or Occupier of the Premises,}

.....*Street,*

THESE CERTIFY that your WATER RATES and CHARGES, viz.:—

	£	:	:
DOMESTIC WATER RATE,		:	:
PUBLIC WATER RATE,		:	:
SUPPLIES FOR OTHER THAN DOMESTIC PURPOSES,		:	:
	£	:	:

for the year commencing 28th May last, are NOW PAST DUE, and that, unless PAID at the CITY CHAMBERS, No. 45 JOHN STREET, within SEVEN DAYS from this date, Summary Legal Measures will be adopted for Recovery of the same, with the addition of Ten per Cent. (2s. per £) on the amount thereof as costs.

ROB. WILSON, Treasurer.

Payment may be made by Cheque (including Bank charge) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope.

Office Hours, from 9.30 to 5—and during November December, January, and February, from 9.30 to 7—Shut at 1 on Saturdays.

☞ If the Original Notice is Lost, please bring this with you.

SECOND NOTICE OF UNPAID BILL.

Landlords and Factors will forfeit all claim to abatement on the expiry of the Seven Days under-mentioned.

C Sec. N

LAST NOTICE.

WATER RATES.

Mr .....

For Property situated at ..... *Street,*

THESE CERTIFY that the WATER RATES, viz.:—

DOMESTIC WATER RATE, ... £ : :

PUBLIC WATER RATE, ... : :

£ : :

for the year commencing 28th May last, are now PAST DUE, and that, unless PAID at the CITY CHAMBERS, No. 45 JOHN STREET, within SEVEN DAYS from this date, Summary Legal Measures will be adopted for Recovery of the same, with the addition of Ten per Cent, (2s. per £) on the amount thereof as costs.

ROB. WILSON, Treasurer.

Payment may be made by Cheque (including Bank drafts) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope.

Office Hours, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 on Saturdays.

☛ **If the Original Notice is Lost, please bring this with you.**

FIRST METER BILL.

A No. **Glasgow Corporation Water-Works.** 1902-1903.

OFFICE HOURS, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 o'clock on Saturdays.

To the CORPORATION of the CITY of GLASGOW, acting under "The GLASGOW CORPORATION WATER-WORKS ACTS, 1855 to 1895."

To Rate or Charge for Supplies of Water for other than Domestic Purposes (in terms of Section 22 of "The Glasgow Corporation Water-Works Amendment Act, 1879," furnished and taken on the Terms and Conditions printed on the back hereof), for the period from 28th May, 1902, to 28th May, 1903, as indicated by Meter between .....190 and .....190 at

Index, ... *Index,* .....

	Gallons.	Amount.
(2)		
Annual Rent of Meter as per Table of Rates, ...	.....	£

Which Rate or Charge you are hereby required to pay on *Receipt*, or at latest *within Fourteen Days* from the date hereof,

At the City Chambers, No. 45 John Street.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer) within the said Fourteen Days: or you may obtain redress, without the necessity of an appeal, by personally calling upon and satisfying the Surveyor, within said period, that your complaint is well founded.

ROB. WILSON, *Treasurer.*

Payment may be made by Cheque (incurring Bank Charge) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope. Stamps will not be accepted in payment.

PLEASE PRESENT THIS NOTICE WHEN MAKING PAYMENT.

[See other Side.

SECOND METER BILL.

A O No.

Glasgow Corporation Water-Works.

1902-1903.

OFFICE HOURS, from 9.30 to 5—and during November, December, January, and February, from 9.30 to 7—Shut at 1 o'clock on Saturdays.

To the CORPORATION of the CITY of GLASGOW, acting under The GLASGOW CORPORATION WATER-WORKS ACTS, 1855 to 1895."

To Rate or Charge for Supplies of Water for other than Domestic Purposes (in terms of Section 23 of "The Glasgow Corporation Water-Works Amendment Act, 1879," furnished and taken on the Terms and Conditions printed on the back hereof), for the period from 28th May, 1902, to 28th May, 1903, as indicated by Meter between .....190 and .....190 at

Index,..... Index,.....

	Gallons.	Amount
One Penny per Pound on Full Annual Value of Premises, £.....		£

Which Rate or Charge you are hereby required to pay *on Receipt*, or at latest *within Fourteen Days* from the date hereof,

At the City Chambers, No. 45 John Street.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer) within the said Fourteen Days; or you may obtain redress, without the necessity of an appeal, by personally calling upon and satisfying the Surveyor, within said period, that your complaint is well founded.

ROB. WILSON, *Treasurer.*

Payment may be made by Cheque (including Bank Charge) or Post-Office Order, payable in Glasgow to the Treasurer, if accompanied by a Stamped Envelope. Stamps will not be accepted in payment.

PLEASE PRESENT THIS NOTICE WHEN MAKING PAYMENT.

[See other Side.

A Sec. / No.

Owner's Rate.

GLASGOW CORPORATION WATER-WORKS. 1902-1903.

Mr......

For Property situated at No.....*Street.*

THESE CERTIFY that you are ASSESSED and RATED, and held liable, under "THE GLASGOW CORPORATION WATER-WORKS ACT, 1855," for the period from 28th May, 1902, to 28th May, 1903, in the following RATE, viz.:

PUBLIC WATER RATE (Payable by Owner), on Annual Value of £ , at 1d. in the Pound..£ : : £ : :

Which Rate you are hereby required to pay *on Receipt*, or at latest *within One Month* from the date hereof,

AT THE CITY CHAMBERS, NO. 45 JOHN STREET.

If you consider yourself aggrieved by said rating, you may appeal against the same to the Corporation (in writing, stating the grounds of your appeal, and sent under cover to the Treasurer) within said Month; or you may obtain redress, without the necessity of an appeal, by personally calling upon and satisfying the surveyor, within said period, that your complaint is well founded.

APPEALS AGAINST RENTAL SHOULD BE ACCOMPANIED WITH VALUATION SCHEDULE.

Payment may be made by Cheque (including Bank charge) or Post-Office Order, payable in Glasgow to the Treasurer, *if accompanied by a Stamped Envelope. Stamps will not be accepted in payment.*

ROB. WILSON, *Treasurer.*

PLEASE PRESERVE THIS DOCUMENT AND PRESENT IT ON PAYMENT.

Office Hours, from 9:30 to 5—and during November, December, January and February, from 9:30 to 7—Shut at 1 on Saturdays.

PAYABLE AT THE CITY CHAMBERS, NO. 45 JOHN STREET.

RATE LEDGER.

Section Folio

GLASGOW CORPORATION WATER-WORKS.

An Assessment to the DOMESTIC WATER RATE, and the PUBLIC WATER RATE for the CITY of GLASGOW and SUBURBS thereof, and DISTRICTS and PLACES Adjacent, for the Year 1902-1903, made this day 1902, also CHARGES for the SUPPLY of Water for other than DOMESTIC PURPOSES, for said Year.

No. in the Rate.	Name of Person Rated.	Name of the Owner of the Property Rated.	Description and Situation of Property.	Rent of House.	Rent of other Possessions.	Full Annual Value.	Landlords.	Public Water Rate, 1d. in the £.	Domestic Water Rate, 5d. in the £.	Charges for Supply for other than Domestic Purposes.	Total.	Amount Paid.	Abatements.	Costs Paid.	Cash Book Page.	Arrears.	Deductions.	Addition.
			Street. No. Description. Flat.				Domestic Water Rate of 5d. per £ on Dwelling Houses. £7 and not exceeding £10. Under £7.										Trade Rate. Domestic Rate. Public Rate. Domestic Rate.	Trade Rate. Domestic Rate. Public Rate. Domestic Rate.

Columns are here shown reduced, but in the original show necessary spaces for rulings.

METER LEDGER.

GLASGOW CORPORATION WATER-WORKS.

CHARGES for SUPPLY of WATER for other than DOMESTIC PURPOSES for the Year 1901-1902.

No.	Name.	Counting House.	Premises to which Water is supplied.	Quantity In Account Rendered.	Quantity Added.	Quantity Deducted.	Annual Rent of Meter as per Table of Rates.	Id. per £ on full Annual Value of Premises.	Amount of Account Rendered.	Amount Paid.	Page of C. B.	Costs.	Additions.	Deductions.	Arrears.	Remarks.

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Appendix B—Exhibit 1.

Composition Scale—Liverpool—1902.

Acc'ts	General Rate. Gross. £ s. d.	General Rate. Discount. £ s. d.	General Rate. Nett. £ s. d.	Water Rate. Gross. £ s. d.	Water Rate. Disc't. s. d.	Water Rate. Nett. s. d.	Water Rent. Gross. £ s. d.	Water Rent. Disc't. s. d.	Water Rent. Nett. £ s. d.	Grand Total £ s. d.	Acc'ts
1	0 3 6½	0 1 9½	0 1 9½	0 0 6	0 1½	0 4½	0 0 7½	0 2	0 0 5½	0 2 7½	1
2	0 7 2	0 3 7	0 3 7	0 1 0	0 3	0 9	0 1 3	0 4	0 0 11	0 5 3	2
3	0 10 8	0 5 4	0 5 4	0 1 6	0 4	1 2	0 1 11	0 6	0 1 5	0 7 11	3
4	0 14 3	0 7 2	0 7 1	0 2 0	0 6	1 6	0 2 6	0 7	0 1 11	0 10 6	4
5	0 17 10	0 8 11	0 8 11	0 2 6	0 8	1 10	0 3 2	0 10	0 2 4	0 13 1	5
6	1 1 4	0 10 8	0 10 8	0 3 0	0 9	2 3	0 3 9	0 11	0 2 10	0 15 9	6
7	1 4 11	0 12 5	0 12 6	0 3 6	0 10	2 8	0 4 5	1 2	0 3 3	0 18 5	7
8	1 8 6	0 14 3	0 14 3	0 4 0	1 0	3 0	0 5 0	1 3	0 3 9	1 1 0	8
9	1 12 1	0 16 0	0 16 1	0 4 6	1 2	3 4	0 5 8	1 5	0 4 3	1 3 8	9
10	1 15 8	0 17 10	0 17 10	0 5 0	1 3	3 9	0 6 3	1 7	0 4 8	1 6 3	10
11	1 19 2	0 19 7	0 19 7	0 5 6	1 4	4 2	0 6 11	1 9	0 5 2	1 8 11	11
12	2 2 9	1 1 4	1 1 5	0 6 0	1 6	4 6	0 7 6	1 10	0 5 8	1 11 7	12
13	2 6 4	1 3 2	1 3 2	0 6 6	1 8	4 10	0 8 2	2 1	0 6 1	1 14 1	13
14	2 9 10	1 4 11	1 4 11	0 7 0	1 9	5 3	0 8 9	2 2	0 6 7	1 16 9	14
15	2 13 5	1 6 8	1 6 9	0 7 6	1 10	5 8	0 9 5	2 5	0 7 0	1 19 5	15
16	2 17 0	1 8 6	1 8 6	0 8 0	2 0	6 0	0 10 0	2 6	0 7 6	2 2 0	16
17	3 0 7	1 10 3	1 10 4	0 8 6	2 2	6 4	0 10 8	2 8	0 8 0	2 4 8	17
18	3 4 2	1 12 1	1 12 1	0 9 0	2 3	6 9	0 11 2	2 10	0 8 5	2 7 8	18
19	3 7 8	1 13 10	1 13 10	0 9 6	2 4	7 2	0 11 11	3 0	0 8 11	2 9 11	19
20	3 11 3	1 15 7	1 15 8	0 10 0	2 6	7 6	0 12 6	3 1	0 9 5	2 12 7	20
21	3 14 10	1 17 5	1 17 5	0 10 6	2 8	7 10	0 13 2	3 4	0 9 10	2 15 1	21
22	3 18 4	1 19 2	1 19 2	0 11 0	2 9	8 3	0 13 9	3 5	0 10 4	2 17 9	22
23	4 1 11	2 0 11	2 1 0	0 11 6	2 10	8 8	0 14 5	3 8	0 10 9	3 0 5	23
24	4 5 6	2 2 9	2 2 9	0 12 0	3 0	9 0	0 15 0	3 9	0 11 3	3 3 0	24
25	4 9 1	2 4 6	2 4 7	0 12 6	3 2	9 4	0 15 8	3 11	0 11 9	3 5 6	25
26	4 12 8	2 6 4	2 6 4	0 13 0	3 3	9 9	0 16 3	4 1	0 12 2	3 8 3	26
27	4 16 2	2 8 1	2 8 1	0 13 6	3 4	10 2	0 16 11	4 2	0 12 8	3 10 11	27
28	4 19 9	2 9 10	2 9 11	0 14 0	3 6	10 6	0 17 6	4 4	0 13 2	3 13 7	28
29	5 3 4	2 11 8	2 11 8	0 14 6	3 8	10 10	0 18 2	4 7	0 13 7	3 16 1	29
30	5 6 10	2 13 5	2 13 5	0 15 0	3 9	11 3	0 18 9	4 8	0 14 1	3 18 9	30
1	5 10 5	2 15 2	2 15 3	0 15 6	3 10	11 8	0 19 5	4 11	0 14 6	4 1 5	31
2	5 14 0	2 17 0	2 17 0	0 16 0	4 0	12 0	1 0 0	5 0	0 15 0	4 4 0	32
3	5 17 7	2 18 9	2 18 10	0 16 6	4 2	12 4	1 0 8	5 2	0 15 6	4 6 8	33
4	6 1 2	3 0 7	3 0 7	0 17 0	4 3	12 9	1 1 3	5 4	0 15 11	4 9 3	34
5	6 4 8	3 2 4	3 2 4	0 17 6	4 4	13 2	1 1 11	5 6	0 16 5	4 11 11	35
6	6 8 3	3 4 1	3 4 2	0 18 0	4 6	13 6	1 2 6	5 7	0 16 11	4 14 7	36
7	6 11 10	3 5 11	3 5 11	0 18 6	4 8	13 10	1 3 2	5 10	0 17 4	4 17 1	37
8	6 15 4	3 7 8	3 7 8	0 19 0	4 9	14 3	1 3 9	5 11	0 17 10	4 19 0	38
9	6 18 11	3 9 5	3 9 6	0 19 6	4 10	14 8	1 4 5	6 2	0 18 3	5 2 5	39
10	7 2 6	3 11 3	3 11 3	1 0 0	5 0	15 0	1 5 0	6 3	0 18 9	5 5 0	40
1	7 6 1	3 13 0	3 13 1	1 0 6	5 2	15 4	1 5 8	6 5	0 19 3	5 7 8	41
2	7 9 8	3 14 10	3 14 10	1 1 0	5 3	15 9	1 6 3	6 7	0 19 8	5 10 3	42
3	7 13 2	3 16 7	3 16 7	1 1 6	5 4	16 2	1 6 11	6 9	1 0 2	5 12 11	43
4	7 16 9	3 18 4	3 18 5	1 2 0	5 6	16 6	1 7 6	6 10	1 0 8	5 15 7	44
5	8 0 4	4 0 2	4 0 2	1 2 6	5 8	16 10	1 8 2	7 1	1 1 1	5 18 1	45
6	8 3 10	4 1 11	4 1 11	1 3 0	5 9	17 3	1 8 9	7 2	1 1 7	6 0 9	46
7	8 7 5	4 3 8	4 3 9	1 3 6	5 10	17 8	1 9 5	7 5	1 2 0	6 3 5	47
8	8 11 0	4 5 6	4 5 6	1 4 0	6 0	18 0	1 10 0	7 6	1 2 6	6 6 0	48
9	8 14 7	4 7 3	4 7 4	1 4 6	6 2	18 4	1 10 8	7 8	1 3 0	6 8 8	49
10	8 18 2	4 9 1	4 9 1	1 5 0	6 3	18 9	1 11 3	7 10	1 3 5	6 11 3	50

Acre's	General Rate.						Water Rate.						Water Rent.						Grand Total.			Acre's
	Gross.			Discount.			Nett.			Gross.			Disc't.			Nett.			Gross.			Disc't.			Nett.					
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	
51	9	1	8	4	10	10	4	10	10	1	5	6	6	4	0	19	2	1	11	11	8	0	1	3	11	6	13	11	51
2	9	5	3	4	12	7	4	12	8	1	6	0	6	6	0	19	6	1	12	6	8	1	1	4	5	6	10	7	2
3	9	8	10	4	14	5	4	14	5	1	6	6	6	8	0	19	10	1	13	2	8	4	1	4	10	6	19	1	3
4	9	12	4	4	16	2	4	16	2	1	7	0	6	9	1	0	3	1	13	9	8	5	1	5	4	7	1	9	4
5	9	15	11	4	17	11	4	18	0	1	7	6	6	10	1	0	8	1	14	5	8	8	1	5	9	7	4	5	5
6	9	19	6	4	19	9	4	19	9	1	8	0	7	0	1	1	0	1	15	0	8	9	1	6	3	7	7	0	6
7	10	3	1	5	1	6	5	1	7	1	8	6	7	2	1	1	4	1	15	8	8	11	1	6	9	7	9	8	7
8	10	6	8	5	3	4	5	3	4	1	9	0	7	3	1	1	9	1	16	8	9	1	1	7	2	7	12	3	8
9	10	10	2	5	5	1	5	5	1	1	9	6	7	4	1	2	2	1	16	11	9	3	1	7	8	7	14	11	9
60	10	13	9	5	6	10	5	6	11	1	10	6	7	6	1	2	8	1	17	6	9	4	1	8	2	7	17	7	60
1	10	17	4	5	8	8	5	8	8	1	10	6	7	8	1	2	10	1	18	2	9	7	1	8	7	8	0	1	1
2	11	0	10	5	10	5	5	10	5	1	11	0	7	9	1	3	3	1	18	9	9	8	1	9	1	8	2	9	2
3	11	4	5	5	12	2	5	12	3	1	11	6	7	10	1	3	8	1	19	5	9	11	1	9	6	8	5	5	3
4	11	8	0	5	14	0	5	14	0	1	12	0	8	0	1	4	0	2	0	0	10	0	1	10	0	8	8	0	4
5	11	11	7	5	15	9	5	15	10	1	12	6	8	2	1	4	4	2	0	8	10	2	1	10	6	8	10	8	5
6	11	15	2	5	17	7	5	17	7	1	13	0	8	3	1	4	9	2	1	3	10	4	1	10	11	8	13	3	6
7	11	18	8	5	19	4	5	19	4	1	13	6	8	4	1	5	2	2	1	11	10	6	1	11	5	8	15	11	7
8	12	2	3	6	1	1	6	1	2	1	14	0	8	6	1	5	6	2	2	6	10	7	1	11	11	8	18	7	8
9	12	5	10	6	2	11	6	2	11	1	14	6	8	8	1	5	10	2	3	2	10	10	1	12	4	9	1	1	9
70	12	8	4	6	4	8	6	4	8	1	15	0	8	9	1	6	3	2	3	9	10	11	1	12	10	9	2	9	70
1	12	12	11	6	6	5	6	6	6	1	15	6	8	10	1	6	8	2	4	5	11	2	1	13	3	9	6	5	1
2	12	16	6	6	8	3	6	8	3	1	16	0	9	0	1	7	0	2	5	0	11	8	1	13	9	9	9	0	2
3	13	0	1	6	10	0	6	10	1	1	16	6	9	2	1	7	4	2	5	8	11	5	1	14	3	9	11	8	3
4	13	3	8	6	11	10	6	11	10	1	17	0	9	3	1	7	9	2	6	3	11	7	1	14	8	9	14	3	4
5	13	7	2	6	13	7	6	13	7	1	17	6	9	4	1	8	2	2	6	11	11	9	1	14	2	9	16	11	5
6	13	10	9	6	15	4	6	15	5	1	18	0	9	6	1	8	6	2	7	6	11	10	1	15	8	9	19	7	6
7	13	14	4	6	17	2	6	17	2	1	18	6	9	8	1	8	10	2	8	2	12	1	1	16	1	10	2	1	7
8	13	17	10	6	18	11	6	18	11	1	19	0	9	9	1	9	3	2	8	9	12	2	1	16	7	10	4	9	8
9	14	1	5	7	0	8	7	0	9	1	19	6	9	10	1	9	8	2	9	5	12	5	1	17	0	10	7	5	9
80	14	5	0	7	2	6	7	2	6	2	0	0	10	0	1	10	0	2	10	0	12	6	1	17	8	10	10	0	80
1	14	8	7	7	4	3	7	4	4	2	0	6	10	2	1	10	4	2	10	8	12	8	1	18	0	10	12	8	1
2	14	12	2	7	6	1	7	6	1	2	1	0	10	3	1	10	9	2	11	3	12	10	1	18	5	10	15	3	2
3	14	15	8	7	7	10	7	7	10	2	1	6	10	4	1	11	2	2	11	11	13	0	1	18	11	10	17	11	3
4	14	19	3	7	9	7	7	9	8	2	2	0	10	6	1	11	6	2	12	6	13	1	1	19	5	11	0	7	4
5	15	2	10	7	11	5	7	11	5	2	2	6	10	8	1	11	10	2	13	2	13	4	1	19	10	11	3	1	5
6	15	6	4	7	13	2	7	13	2	2	3	0	10	9	1	12	3	2	13	9	13	5	2	0	4	11	5	9	6
7	15	9	11	7	14	11	7	15	0	2	3	6	10	10	1	12	8	2	14	5	13	8	2	0	9	11	8	5	7
8	15	13	6	7	16	9	7	16	9	2	4	0	11	0	1	13	0	2	15	0	13	9	2	1	3	11	11	0	8
9	15	17	1	7	18	6	7	18	7	2	4	6	11	2	1	13	4	2	15	8	13	11	2	1	9	11	13	8	9
90	16	0	8	8	0	4	8	0	4	2	5	0	11	3	1	13	9	2	16	3	14	1	2	2	2	11	16	3	90
1	16	4	2	8	2	1	8	2	1	2	5	6	11	4	1	14	2	2	16	11	14	3	2	2	8	11	18	11	1
2	16	7	9	8	3	10	8	3	11	2	6	0	11	6	1	14	6	2	17	6	14	4	2	3	2	12	1	7	2
3	16	11	4	8	5	8	8	5	8	2	6	6	11	8	1	14	10	2	18	2	14	7	2	3	7	12	4	1	3
4	16	14	10	8	7	5	8	7	5	2	7	0	11	9	1	15	8	2	18	9	14	8	2	4	1	12	6	9	4
5	16	18	5	8	9	2	8	9	3	2	7	6	11	10	1	15	8	2	19	5	14	11	2	4	6	12	9	5	5
6	17	2	0	8	11	0	8	11	0	2	8	0	12	0	1	16	0	3	0	0	15	0	2	5	0	12	12	0	6
7	17	5	7	8	13	9	8	13	10	2	8	6	12	2	1	16	4	3	0	8	15	2	2	5	6	12	14	8	7
8	17	9	2	8	14	7	8	14	7	2	9	0	12	3	1	16	9	3	1	3	15	4	2	5	11	12	17	3	8
9	17	12	8	8	16	4	8	16	4	2	9	6	12	4	1	17	2	3	1	11	15	6	2	6	5	12	19	11	9
100	17	16	3	8	18	1	8	18	2	2	10	0	12	6	1	17	6	3	2	9	15	7	2	6	11	13	2	7	100

Ass't.	General Rate.						Water Rate.						Water Rent.						Grand Total.			Ass't.
	Gross.			Discount.			Nett.			Gross.			Disc't.			Nett.			Gross.			Disc't.			Nett.					
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
101	17	19	10	8	19	11	8	19	11	2	10	6	12	8	1	17	10	3	3	2	0	15	10	2	7	4	13	6	1	101
2	18	8	4	9	1	8	9	1	8	2	11	0	13	9	1	18	8	3	3	9	0	15	11	2	7	10	13	7	9	2
3	18	6	11	9	3	5	9	3	6	2	11	6	12	10	1	18	8	3	4	5	0	16	2	2	8	8	13	10	5	3
4	18	10	6	9	5	3	9	5	3	2	12	0	13	0	1	19	0	3	5	0	0	16	3	2	8	9	13	13	0	4
5	18	14	1	9	7	0	9	7	1	2	12	6	13	2	1	19	4	3	5	8	0	16	5	2	9	3	13	15	8	5
6	18	17	8	9	8	10	9	8	10	2	13	0	13	3	1	19	9	3	6	3	0	16	7	2	9	8	13	18	3	6
7	19	1	2	9	10	7	9	10	7	2	13	6	13	4	2	0	2	3	6	11	0	16	9	2	10	2	14	0	11	7
8	19	4	9	9	12	4	9	12	5	2	14	0	13	6	2	0	6	3	7	6	0	16	10	2	10	8	14	3	7	8
9	19	8	4	9	14	2	9	14	2	2	14	6	13	8	2	0	10	3	8	2	0	17	1	2	11	1	14	6	1	9
110	19	11	10	9	15	11	9	15	11	2	15	0	13	9	2	1	3	3	8	9	0	17	2	2	11	7	14	8	9	110
1	19	15	5	9	17	8	9	17	9	2	15	6	13	10	2	1	8	3	9	5	0	17	5	2	12	0	14	11	5	1
2	19	19	0	9	19	6	9	19	6	2	16	0	14	0	2	2	0	3	10	0	0	17	6	2	12	6	14	14	0	2
3	20	2	7	10	1	3	10	1	4	2	16	6	14	2	2	2	4	3	10	8	0	17	8	2	13	0	14	16	8	3
4	20	6	2	10	3	1	10	3	1	2	17	0	14	3	2	2	9	3	11	3	0	17	10	2	13	5	14	19	3	4
5	20	9	8	10	4	10	10	4	10	2	17	6	14	4	2	3	2	3	11	11	0	18	0	2	13	11	15	1	11	5
6	20	13	3	10	6	7	10	6	8	2	18	0	14	6	2	3	6	3	12	6	0	18	1	2	14	5	15	4	7	6
7	20	16	10	10	8	5	10	8	5	2	18	6	14	8	2	3	10	3	13	2	0	18	4	2	14	10	15	7	1	7
8	21	0	4	10	10	2	10	10	2	2	19	0	14	9	2	4	3	3	13	9	0	18	5	2	15	4	15	9	9	8
9	21	3	11	10	11	11	10	12	0	2	19	6	14	10	2	4	8	3	14	5	0	18	8	2	15	9	15	12	5	9
120	21	7	6	10	13	9	10	13	9	3	0	0	15	0	2	5	0	3	15	0	0	18	9	2	16	3	15	15	0	120
1	21	11	1	10	15	6	10	15	7	3	0	6	15	2	2	5	4	3	15	8	0	18	11	2	16	9	15	17	8	1
2	21	14	8	10	17	4	10	17	4	3	1	0	15	3	2	5	9	3	16	3	0	19	1	2	17	2	16	0	3	2
3	21	18	2	10	19	1	10	19	1	3	1	6	15	4	2	6	2	3	16	11	0	19	3	2	17	8	16	2	11	3
4	22	1	9	11	0	10	11	0	11	3	2	0	15	6	2	6	6	3	17	6	0	19	4	2	18	2	16	5	7	4
5	22	5	4	11	2	8	11	2	8	3	2	6	15	8	2	6	10	3	18	2	0	19	7	2	18	7	16	8	1	5
6	22	8	10	11	4	5	11	4	5	3	3	0	15	9	2	7	2	3	18	9	0	19	8	2	19	1	16	10	9	6
7	22	12	5	11	6	2	11	6	3	3	3	6	15	10	2	7	8	3	19	5	0	19	11	2	19	6	16	13	5	7
8	22	16	0	11	8	0	11	8	0	3	4	0	16	0	2	8	0	4	0	0	1	0	0	3	0	0	16	16	0	8
9	22	19	7	11	9	9	11	9	10	3	4	6	16	2	2	8	4	4	0	8	1	0	2	3	0	6	16	18	8	9
130	23	3	3	11	11	7	11	11	7	3	5	0	16	3	2	8	9	4	1	3	1	0	4	3	0	11	17	1	3	130
1	23	6	8	11	13	4	11	13	4	3	5	6	16	4	2	9	2	4	1	11	1	0	6	3	1	5	17	3	11	1
2	23	10	3	11	15	1	11	15	2	3	6	0	16	6	2	9	6	4	2	6	1	0	7	3	1	11	17	6	7	2
3	23	13	10	11	16	11	11	16	11	3	6	6	16	8	2	9	10	4	3	2	1	0	10	3	2	4	17	9	1	3
4	23	17	4	11	18	8	11	18	8	3	7	0	16	9	2	10	3	4	3	9	1	0	11	3	2	10	17	11	9	4
5	24	0	11	12	0	5	12	0	6	3	7	6	16	10	2	10	8	4	4	5	1	1	2	3	3	3	17	14	5	5
6	24	4	6	12	2	3	12	2	3	3	8	0	17	0	2	11	0	4	5	0	1	1	3	3	3	9	17	17	0	6
7	24	8	1	12	4	0	12	4	1	3	8	6	17	2	2	11	4	4	5	8	1	1	5	3	4	3	17	19	8	7
8	24	11	8	12	5	10	12	5	10	3	9	0	17	3	2	11	9	4	6	8	1	1	7	3	4	8	18	2	8	8
9	24	15	2	12	7	7	12	7	7	3	9	6	17	4	2	12	2	4	6	11	1	1	9	3	5	2	18	4	11	9
140	24	18	9	12	9	4	12	9	5	3	10	0	17	6	2	12	8	4	7	6	1	1	10	3	5	3	18	7	7	140
1	25	2	4	12	11	2	12	11	2	3	10	6	17	8	2	13	10	4	8	2	1	2	1	3	6	1	18	10	1	1
2	25	5	10	12	12	11	12	12	11	3	11	0	17	9	2	13	3	4	8	9	1	2	2	3	6	7	18	12	9	2
3	25	9	5	12	14	8	12	14	9	3	11	6	17	10	2	13	8	4	9	5	1	2	5	3	7	0	18	15	5	3
4	25	13	0	12	16	6	12	16	6	3	12	0	18	0	2	14	0	4	10	0	1	2	6	3	7	6	18	18	0	4
5	25	16	7	12	18	3	12	18	4	3	12	6	18	2	2	14	4	4	10	8	1	2	8	3	8	0	19	0	8	5
6	26	0	2	13	0	1	13	0	1	3	13	0	18	3	2	14	9	4	11	3	1	2	10	3	8	5	19	3	3	6
7	26	3	8	13	1	10	13	1	10	3	13	6	18	4	2	15	2	4	11	11	1	3	0	3	8	11	19	5	11	7
8	26	7	8	13	3	7	13	3	8	3	13	6	18	6	2	15	6	4	12	6	1	3	1	3	9	5	19	8	7	8
9	26	10	10	13	6	5	13	5	5	3	14	6	18	8	2	15	10	4	13	2	1	3	4	3	9	10	19	11	1	9
150	26	14	4	13	7	2	13	7	2	3	15	0	18	9	2	16	3	4	13	9	1	3	5	3	10	4	19	13	9	150

1902.

PARISH OF LIVERPOOL.

GENERAL AND WATER RATES, &c.

Assessment.	General 8s. 6¾d.			Water, 6d.			Total Rates, 4s. 6¾d.			Assessment.	Water Rent, 7½d.			Half Sewer and Water Rates, 4d.		
£	£	s.	d.	£	s.	d.	£	s.	d.	£	£	s.	d.	£	s.	d.
1	0	3	6¾	0	0	6	0	4	0¾	1	0	0	7½	0	0	4
2	0	7	2	0	1	0	0	8	2	2	0	1	3	0	0	8
3	0	10	8	0	1	6	0	12	2	3	0	1	11	0	1	0
4	0	14	3	0	2	0	0	16	3	4	0	2	6	0	1	4
5	0	17	10	0	2	6	1	0	4	5	0	3	2	0	1	8
6	1	1	5	0	3	0	1	4	5	6	0	3	9	0	2	0
7	1	4	11	0	3	6	1	8	5	7	0	4	5	0	2	4
8	1	8	6	0	4	0	1	12	6	8	0	5	0	0	2	8
9	1	12	1	0	4	6	1	16	7	9	0	5	8	0	3	0
10	**1**	**15**	**8**	**0**	**5**	**0**	**2**	**0**	**8**	**10**	**0**	**6**	**3**	**0**	**3**	**4**
11	1	19	2	0	5	6	2	4	8	11	0	6	11	0	3	8
12	2	2	9	0	6	0	2	8	9	12	0	7	6	0	4	0
13	2	6	4	0	6	6	2	12	10	13	0	8	2	0	4	4
14	2	9	11	0	7	0	2	16	11	14	0	8	9	0	4	8
15	2	13	5	0	7	6	3	0	11	15	0	9	5	0	5	0
16	2	17	0	0	8	0	3	5	0	16	0	10	0	0	5	4
17	3	0	7	0	8	6	3	9	1	17	0	10	8	0	5	8
18	3	4	2	0	9	0	3	13	2	18	0	11	3	0	6	0
19	3	7	8	0	9	6	3	17	2	19	0	11	11	0	6	4
20	**3**	**11**	**3**	**0**	**10**	**0**	**4**	**1**	**3**	**20**	**0**	**12**	**6**	**0**	**6**	**8**
21	3	14	10	0	10	6	4	5	4	21	0	13	2	0	7	0
22	3	18	5	0	11	0	4	9	5	22	0	13	9	0	7	4
23	4	1	11	0	11	6	4	13	5	23	0	14	5	0	7	8
24	4	5	6	0	12	0	4	17	6	24	0	15	0	0	8	0
25	4	9	1	0	12	6	5	1	7	25	0	15	8	0	8	4
26	4	12	8	0	13	0	5	5	8	26	0	16	3	0	8	8
27	4	16	2	0	13	6	5	9	8	27	0	16	11	0	9	0
28	4	19	9	0	14	0	5	13	9	28	0	17	6	0	9	4
29	5	3	4	0	14	6	5	17	10	29	0	18	2	0	9	8
30	**5**	**6**	**11**	**0**	**15**	**0**	**6**	**1**	**11**	**30**	**0**	**18**	**9**	**0**	**10**	**0**
31	5	10	5	0	15	6	6	5	11	31	0	19	5	0	10	4
32	5	14	0	0	16	0	6	10	0	32	1	0	0	0	10	8
33	5	17	7	0	16	6	6	14	1	33	1	0	8	0	11	0
34	6	1	2	0	17	0	6	18	2	34	1	1	3	0	11	4
35	6	4	8	0	17	6	7	2	2	35	1	1	11	0	11	8
36	6	8	3	0	18	0	7	6	3	36	1	2	6	0	12	0
37	6	11	10	0	18	6	7	10	4	37	1	3	2	0	12	4
38	6	15	5	0	19	0	7	14	5	38	1	3	9	0	12	8
39	6	18	11	0	19	6	7	18	5	39	1	4	5	0	13	0
40	**7**	**2**	**6**	**1**	**0**	**0**	**8**	**2**	**6**	**40**	**1**	**5**	**0**	**0**	**13**	**4**
41	7	6	1	1	0	6	8	6	7	41	1	5	8	0	13	8
42	7	9	8	1	1	0	8	10	8	42	1	6	3	0	14	0
43	7	13	2	1	1	6	8	14	8	43	1	6	11	0	14	4
44	7	16	9	1	2	0	8	18	9	44	1	7	6	0	14	8
45	8	0	4	1	2	6	9	2	10	45	1	8	2	0	15	0
46	8	3	11	1	3	0	9	6	11	46	1	8	9	0	15	4
47	8	7	5	1	3	6	9	10	11	47	1	9	5	0	15	8
48	8	11	0	1	4	0	9	15	0	48	1	10	0	0	16	0
49	8	14	7	1	4	6	9	19	1	49	1	10	8	0	16	4
50	**8**	**18**	**2**	**1**	**5**	**0**	**10**	**3**	**2**	**50**	**1**	**11**	**3**	**0**	**16**	**8**
51	9	1	8	1	5	6	10	7	2	51	1	11	11	0	17	0
52	9	5	3	1	6	0	10	11	3	52	1	12	6	0	17	4
53	9	8	10	1	6	6	10	15	4	53	1	13	2	0	17	8
54	9	12	5	1	7	0	10	19	5	54	1	13	9	0	18	0

1902.

PARISH OF LIVERPOOL.

GENERAL AND WATER RATES, &c.

Assessment.	General, 3s. 6½d.			Water, 6d.			Total Rates, 4s. 0¾d.			Assessment.	Water Rent, 7½d.			Half Sewer and Water Rates, 4d.		
£	£	s.	d.	£	s.	d.	£	s.	d.	£	£	s.	d.	£	s.	d.
55	9	15	11	1	7	6	11	3	5	55	1	14	5	0	18	4
56	9	19	6	1	8	0	11	7	6	56	1	15	0	0	18	8
57	10	3	1	1	8	6	11	11	7	57	1	15	8	0	19	0
58	10	6	8	1	9	0	11	15	8	58	1	16	3	0	19	4
59	10	10	2	1	9	6	11	19	8	59	1	16	11	0	19	8
60	**10**	**13**	**9**	**1**	**10**	**0**	**12**	**3**	**9**	**60**	**1**	**17**	**6**	**1**	**0**	**0**
61	10	17	4	1	10	6	12	7	10	61	1	18	2	1	0	4
62	11	0	11	1	11	0	12	11	11	62	1	18	9	1	0	8
63	11	4	5	1	11	6	12	15	11	63	1	19	5	1	1	0
64	11	8	0	1	12	0	13	0	0	64	2	0	0	1	1	4
65	11	11	7	1	12	6	13	4	1	65	2	0	8	1	1	8
66	11	15	2	1	13	0	13	8	2	66	2	1	3	1	2	0
67	11	18	8	1	13	6	13	12	2	67	2	1	11	1	2	4
68	12	2	3	1	14	0	13	16	3	68	2	2	6	1	2	8
69	12	5	10	1	14	6	14	0	4	69	2	3	2	1	3	0
70	**12**	**9**	**5**	**1**	**15**	**0**	**14**	**4**	**5**	**70**	**2**	**3**	**9**	**1**	**3**	**4**
71	12	12	11	1	15	6	14	8	5	71	2	4	5	1	3	8
72	12	16	6	1	16	0	14	12	6	72	2	5	0	1	4	0
73	13	0	1	1	16	6	14	16	7	73	2	5	8	1	4	4
74	13	3	8	1	17	0	15	0	8	74	2	6	3	1	4	8
75	13	7	2	1	17	6	15	4	8	75	2	6	11	1	5	0
76	13	10	9	1	18	0	15	8	9	76	2	7	6	1	5	4
77	13	14	4	1	18	6	15	12	10	77	2	8	2	1	5	8
78	13	17	11	1	19	0	15	16	11	78	2	8	9	1	6	0
79	14	1	5	1	19	6	16	0	11	79	2	9	5	1	6	4
80	**14**	**5**	**0**	**2**	**0**	**0**	**16**	**5**	**0**	**80**	**2**	**10**	**0**	**1**	**6**	**8**
81	14	8	7	2	0	6	16	9	1	81	2	10	8	1	7	0
82	14	12	2	2	1	0	16	13	2	82	2	11	3	1	7	4
83	14	15	8	2	1	6	16	17	2	83	2	11	11	1	7	8
84	14	19	3	2	2	0	17	1	3	84	2	12	6	1	8	0
85	15	2	10	2	2	6	17	5	4	85	2	13	2	1	8	4
86	15	6	5	2	3	0	17	9	5	86	2	13	9	1	8	8
87	15	9	11	2	3	6	17	13	5	87	2	14	5	1	9	0
88	15	13	6	2	4	0	17	17	6	88	2	15	0	1	9	4
89	15	17	1	2	4	6	18	1	7	89	2	15	8	1	9	8
90	**16**	**0**	**8**	**2**	**5**	**0**	**18**	**5**	**8**	**90**	**2**	**16**	**3**	**1**	**10**	**0**
91	16	4	2	2	5	6	18	9	8	91	2	16	11	1	10	4
92	16	7	9	2	6	0	18	13	9	92	2	17	6	1	10	8
93	16	11	4	2	6	6	18	17	10	93	2	18	2	1	11	0
94	16	14	11	2	7	0	19	1	11	94	2	18	9	1	11	4
95	16	18	5	2	7	6	19	5	11	95	2	19	5	1	11	8
96	17	2	0	2	8	0	19	10	0	96	3	0	0	1	12	0
97	17	5	7	2	8	6	19	14	1	97	3	0	8	1	12	4
98	17	9	2	2	9	0	19	18	2	98	3	1	3	1	12	8
99	17	12	8	2	9	6	20	2	2	99	3	1	11	1	13	0
100	**17**	**16**	**3**	**2**	**10**	**0**	**20**	**6**	**3**	**100**	**3**	**2**	**6**	**1**	**13**	**4**
101	17	19	10	2	10	6	20	10	4	101	3	3	2	1	13	8
102	18	3	5	2	11	0	20	14	5	102	3	3	9	1	14	0
103	18	6	11	2	11	6	20	18	5	103	3	4	5	1	14	4
104	18	10	6	2	12	0	21	2	6	104	3	5	0	1	14	8
105	18	14	1	2	12	6	21	6	7	105	3	5	8	1	15	0
106	18	17	8	2	13	0	21	10	8	106	3	6	3	1	15	4
107	19	1	2	2	13	6	21	14	8	107	3	6	11	1	15	8
108	19	4	9	2	14	0	21	18	9	108	3	7	6	1	16	0

1902.

PARISH OF LIVERPOOL.

GENERAL AND WATER RATES, &c.

Assessment.	General. 3s. 6½d.			Water, 6d.			Total Rates, 4s. 0½d.			Assessment.	Water Rent, 7½d.			Half Sewer and Water Rates, 4d.		
£	£	s.	d.	£	s.	d.	£	s.	d.	£	£	s.	d.	£	s.	d.
100	19	8	4	2	14	6	22	2	10	109	3	8	2	1	16	4
110	19	11	11	2	15	0	22	6	11	110	3	8	9	1	16	8
111	19	15	5	2	15	6	22	10	11	111	3	9	5	1	17	0
112	19	19	0	2	16	0	22	15	0	112	3	10	0	1	17	4
113	20	2	7	2	16	6	22	19	1	113	3	10	8	1	17	8
114	20	6	2	2	17	0	23	3	2	114	3	11	3	1	18	1
115	20	9	8	2	17	6	23	7	2	115	3	11	11	1	18	4
116	20	13	3	2	18	0	23	11	3	116	3	12	6	1	18	8
117	20	16	10	2	18	6	23	15	4	117	3	13	2	1	19	0
118	21	0	5	2	19	0	23	19	5	118	3	13	9	1	19	4
119	21	3	11	2	19	6	24	3	5	119	3	14	5	1	19	8
120	21	7	6	3	0	0	24	7	6	120	3	15	0	2	0	0
121	21	11	1	3	0	6	24	11	7	121	3	15	8	2	0	4
122	21	14	8	3	1	0	24	15	8	122	3	16	3	2	0	8
123	21	18	2	3	1	6	24	19	8	123	3	16	11	2	1	0
124	22	1	9	3	2	0	25	3	9	124	3	17	6	2	1	4
125	22	5	4	3	2	6	25	7	10	125	3	18	2	2	1	8
126	22	8	11	3	3	0	25	11	11	126	3	18	9	2	2	0
127	22	12	5	3	3	6	25	15	11	127	3	19	5	2	2	4
128	22	16	0	3	4	0	26	0	0	128	4	0	0	2	2	8
129	22	19	7	3	4	6	26	4	1	129	4	0	8	2	3	0
130	23	3	2	3	5	0	26	8	2	130	4	1	3	2	3	4
131	23	6	8	3	5	6	26	12	2	131	4	1	11	2	3	8
132	23	10	3	3	6	0	26	16	3	132	4	2	6	2	4	0
133	23	13	10	3	6	6	27	0	4	133	4	3	2	2	4	4
134	23	17	5	3	7	0	27	4	5	134	4	3	9	2	4	8
135	24	0	11	3	7	6	27	8	5	135	4	4	5	2	5	0
136	24	4	6	3	8	0	27	12	6	136	4	5	0	2	5	4
137	24	8	1	3	8	6	27	16	7	137	4	5	8	2	5	8
138	24	11	8	3	9	0	28	0	8	138	4	6	3	2	6	0
139	24	15	2	3	9	6	28	4	8	139	4	6	11	2	6	4
140	24	18	9	3	10	0	28	8	9	140	4	7	6	2	6	8
141	25	2	4	3	10	6	28	12	10	141	4	8	2	2	7	0
142	25	5	11	3	11	0	28	16	11	142	4	8	9	2	7	4
143	25	9	5	3	11	6	29	0	11	143	4	9	5	2	7	8
144	25	13	0	3	12	0	29	5	0	144	4	10	0	2	8	0
145	25	16	7	3	12	6	29	9	1	145	4	10	8	2	8	4
146	26	0	2	3	13	0	29	13	2	146	4	11	3	2	8	8
147	26	3	8	3	13	6	29	17	2	147	4	11	11	2	9	0
148	26	7	3	3	14	0	30	1	3	148	4	12	6	2	9	4
149	26	10	10	3	14	6	30	5	4	149	4	13	2	2	9	8
150	26	14	5	3	15	0	30	9	5	150	4	13	9	2	10	0
155	27	12	2	3	17	6	31	9	8	155	4	16	11	2	11	8
160	28	10	0	4	0	0	32	10	0	160	5	0	0	2	13	4
165	29	7	10	4	2	6	33	10	4	165	5	3	2	2	15	0
170	30	5	8	4	5	0	34	10	8	170	5	6	3	2	16	8
175	31	3	5	4	7	6	35	10	11	175	5	9	5	2	18	4
180	32	1	3	4	10	0	36	11	3	180	5	12	6	3	0	0
185	32	19	1	4	12	6	37	11	7	185	5	15	8	3	1	8
190	33	16	11	4	15	0	38	11	11	190	5	18	9	3	3	4
195	34	14	8	4	17	6	39	12	2	195	6	1	11	3	5	0
200	35	12	6	5	0	0	40	12	6	200	6	5	0	3	6	8
210	37	8	2	5	5	0	42	13	2	210	6	11	3	3	10	0
220	39	3	9	5	10	0	44	13	9	220	6	17	6	3	13	4

1902.

PARISH OF LIVERPOOL.

GENERAL AND WATER RATES, &c.

Assessment.	General, 3s. 6¾d.	Water, 6d.	Total Rates, 4s. 0¾d.	Assessment.	Water Rent, 7½d.	Half Sewer and Water Rates, 4d.
£	£ s. d.	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
230	40 19 5	5 15 0	46 14 5	230	7 3 9	3 16 8
240	42 15 0	6 0 0	48 15 0	240	7 10 0	4 0 0
250	44 10 8	6 5 0	50 15 8	250	7 16 3	4 3 4
260	46 6 3	6 10 0	52 16 3	260	8 2 6	4 6 8
270	48 1 11	6 15 0	54 16 11	270	8 8 9	4 10 0
280	49 17 6	7 0 0	56 17 6	280	8 15 0	4 13 4
290	51 13 2	7 5 0	58 18 2	290	9 1 3	4 16 8
300	**53 8 9**	**7 10 0**	**60 18 9**	**300**	**9 7 6**	**5 0 0**
310	55 4 5	7 15 0	62 19 5	310	9 13 9	5 3 4
320	57 0 0	8 0 0	65 0 0	320	10 0 0	5 6 8
330	58 15 8	8 5 0	67 0 8	330	10 6 3	5 10 0
340	60 11 3	8 10 0	69 1 3	340	10 12 6	5 13 4
350	62 6 11	8 15 0	71 1 11	350	10 18 9	5 16 8
360	64 2 6	9 0 0	73 2 6	360	11 5 0	6 0 0
370	65 18 2	9 5 0	75 3 2	370	11 11 3	6 3 4
380	67 13 9	9 10 0	77 3 9	380	11 17 6	6 6 8
390	69 9 5	9 15 0	79 4 5	390	12 3 9	6 10 0
400	**71 5 0**	**10 0 0**	**81 5 0**	**400**	**12 10 0**	**6 13 4**
420	74 16 3	10 10 0	85 6 3	420	13 2 6	7 0 0
440	78 7 6	11 0 0	89 7 6	440	13 15 0	7 6 8
460	81 18 9	11 10 0	93 8 9	460	14 7 6	7 13 4
480	85 10 0	12 0 0	97 10 0	480	15 0 0	8 0 0
500	89 1 3	12 10 0	101 11 3	500	15 12 6	8 6 8
520	92 12 6	13 0 0	105 12 6	520	16 5 0	8 13 4
540	96 3 9	13 10 0	109 13 9	540	16 17 6	9 0 0
560	99 15 0	14 0 0	113 15 0	560	17 10 0	9 6 8
580	103 6 3	14 10 0	117 16 3	580	18 2 6	9 13 4
600	**106 17 6**	**15 0 0**	**121 17 6**	**600**	**18 15 0**	**10 0 0**
620	110 8 9	15 10 0	125 18 9	620	19 7 6	10 6 8
640	114 0 0	16 0 0	130 0 0	640	20 0 0	10 13 4
660	117 11 3	16 10 0	134 1 3	660	20 12 6	11 0 0
680	121 2 6	17 0 0	138 2 6	680	21 5 0	11 6 8
700	124 13 9	17 10 0	142 3 9	700	21 17 6	11 13 4
720	128 5 0	18 0 0	146 5 0	720	22 10 0	12 0 0
740	131 16 3	18 10 0	150 6 3	740	23 2 6	12 6 8
760	135 7 6	19 0 0	154 7 6	760	23 15 0	12 13 4
780	138 18 9	19 10 0	158 8 9	780	24 7 6	13 0 0
800	**142 10 0**	**20 0 0**	**162 10 0**	**800**	**25 0 0**	**13 6 8**
850	151 8 2	21 5 0	172 13 2	850	26 11 3	14 3 4
900	160 6 3	22 10 0	182 16 3	900	28 2 6	15 0 0
950	169 4 5	23 15 0	192 19 5	950	29 13 9	15 16 8
1000	178 2 6	25 0 0	203 2 6	1000	31 5 0	16 13 4
1050	187 0 8	26 5 0	213 5 8	1050	32 16 3	17 10 0
1100	195 18 9	27 10 0	223 8 9	1100	34 7 6	18 6 8
1150	204 16 10	28 15 0	233 11 10	1150	35 18 9	19 3 4
1200	213 15 0	30 0 0	243 15 0	1200	37 10 0	20 0 0
1250	222 13 2	31 5 0	253 18 2	1250	39 1 3	20 16 8
1300	**231 11 3**	**32 10 0**	**264 1 3**	**1300**	**40 12 6**	**21 13 4**
1350	240 9 5	33 15 0	274 4 5	1350	42 3 9	22 10 0
1400	249 7 6	35 0 0	284 7 6	1400	43 15 0	23 6 8
1450	258 5 8	36 5 0	294 10 8	1450	45 6 3	24 3 4
1500	267 3 9	37 10 0	304 13 9	1500	46 17 6	25 0 0
1550	276 1 11	38 15 0	314 16 11	1550	48 8 9	25 16 8
1600	285 0 0	40 0 0	325 0 0	1600	50 0 0	26 13 4

LIVERPOOL CORPORATION WATERWORKS.

OFFICES AND SHOPS.

Within the City of Liverpool and Borough of Bootle.

At 2½ in the £

Assess.	Water Rent.	Assess.	Water Rent.	Assess.	Water Rent.	Assess.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
1	0 0 2½	56	0 11 8	111	1 3 2	166	1 14 7
2	0 0 5	57	0 11 11	112	1 3 4	167	1 14 10
3	0 0 8	58	0 12 1	113	1 3 7	168	1 15 0
4	0 0 10	59	0 12 4	114	1 3 9	169	1 15 3
5	0 1 1	60	0 12 6	115	1 4 0	170	1 15 5
6	0 1 3	61	0 12 9	116	1 4 2	171	1 15 8
7	0 1 6	62	0 12 11	117	1 4 5	172	1 15 10
8	0 1 8	63	0 13 2	118	1 4 7	173	1 16 1
9	0 1 11	64	0 13 4	119	1 4 10	174	1 16 3
10	0 2 1	65	0 13 7	120	1 5 0	175	1 16 6
11	0 2 4	66	0 13 9	121	1 5 3	176	1 16 8
12	0 2 6	67	0 14 0	122	1 5 5	177	1 16 11
13	0 2 9	68	0 14 2	123	1 5 8	178	1 17 1
14	0 2 11	69	0 14 5	124	1 5 10	179	1 17 4
15	0 3 2	70	0 14 7	125	1 6 1	180	1 17½ 6
16	0 3 4	71	0 14 10	126	1 6 3	181	1 17 9
17	0 3 7	72	0 15 0	127	1 6 6	182	1 17 11
18	0 3 9	73	0 15 3	128	1 6 8	183	1 18 2
19	0 4 0	74	0 15 5	129	1 6 11	184	1 18 4
20	0 4 2	75	0 15 8	130	1 7 1	185	1 18 7
21	0 4 5	76	0 15 10	131	1 7 4	186	1 18 9
22	0 4 7	77	0 16 1	132	1 7 6	187	1 19 0
23	0 4 10	78	0 16 3	133	1 7 9	188	1 19 2
24	0 5 0	79	0 16 6	134	1 7 11	189	1 19 5
25	0 5 3	80	0 16 8	135	1 8 2	190	1 19 7
26	0 5 5	81	0 16 11	136	1 8 4	191	1 19 10
27	0 5 8	82	0 17 1	137	1 8 7	192	2 0 0
28	0 5 10	83	0 17 4	138	1 8 9	193	2 0 3
29	0 6 1	84	0 17 6	139	1 9 0	194	2 0 5
30	0 6 3	85	0 17 9	140	1 9 2	195	2 0 8
31	0 6 6	86	0 17 11	141	1 9 5	196	2 0 10
32	0 6 8	87	0 18 2	142	1 9 7	197	2 1 1
33	0 6 11	88	0 18 4	143	1 9 10	198	2 1 3
34	0 7 1	89	0 18 7	144	1 10 0	199	2 1 6
35	0 7 4	90	0 18 9	145	1 10 3	200	2 1 8
36	0 7 6	91	0 19 0	146	1 10 5	300	3 2 6
37	0 7 9	92	0 19 2	147	1 10 8	400	4 3 4
38	0 7 11	93	0 19 5	148	1 10 10	500	5 4 2
39	0 8 2	94	0 19 7	149	1 11 1	600	6 5 0
40	0 8 4	95	0 19 10	150	1 11 3	700	7 5 10
41	0 8 7	96	1 0 0	151	1 11 6	800	8 6 8
42	0 8 9	97	1 0 3	152	1 11 8	900	9 7 6
43	0 9 0	98	1 0 5	153	1 11 11	1000	10 8 4
44	0 9 2	99	1 0 8	154	1 12 1	1100	11 9 2
45	0 9 5	100	1 0 10	155	1 12 4	1200	12 10 0
46	0 9 7	101	1 1 1	156	1 12 6	1300	13 10 10
47	0 9 10	102	1 1 3	157	1 12 9	1400	14 11 8
48	0 10 0	103	1 1 6	158	1 12 11	1500	15 12 6
49	0 10 3	104	1 1 8	159	1 13 2	1600	16 13 4
50	0 10 5	105	1 1 11	160	1 13 4	1700	17 14 2
51	0 10 8	106	1 2 1	161	1 13 7	1800	18 15 0
52	0 10 10	107	1 2 4	162	1 13 9	1900	19 15 10
53	0 11 1	108	1 2 6	163	1 14 0	2000	20 16 8
54	0 11 3	109	1 2 9	164	1 14 2	2500	26 0 10
55	0 11 6	110	1 2 11	165	1 14 5	3000	31 5 0

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~~1897~~. 1902.

LIVERPOOL CORPORATION WATERWORKS.

SCALE OF DOMESTIC WATER RENTS, AND OTHER CHARGES FOR WATER.

PER ANNUM.

PRIVATE DWELLING HOUSES.

Within the City of Liverpool and Borough of Bootle.

At 7½d in the £

Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
1	0 0 7½	56	1 15 0	111	3 9 5	260	8 2 6
2	0 1 3	57	1 15 8	112	3 10 0	270	8 8 9
3	0 1 11	58	1 16 3	113	3 10 8	280	8 15 0
4	0 2 6	59	1 16 11	114	3 11 3	290	9 1 3
5	0 3 2	60	1 17 6	115	3 11 11	300	9 7 6
6	0 3 9	61	1 18 2	116	3 12 6	310	9 13 9
7	0 4 5	62	1 18 9	117	3 13 2	320	10 0 0
8	0 5 0	63	1 19 5	118	3 13 9	330	10 6 3
9	0 5 8	64	2 0 0	119	3 14 5	340	10 12 6
10	0 6 3	65	2 0 8	120	3 15 0	350	10 18 9
11	0 6 11	66	2 1 3	121	3 15 8	360	11 5 0
12	0 7 6	67	2 1 11	122	3 16 3	370	11 11 3
13	0 8 2	68	2 2 6	123	3 16 11	380	11 17 6
14	0 8 9	69	2 3 2	124	3 17 6	390	12 3 9
15	0 9 5	70	2 3 9	125	3 18 2	400	12 10 0
16	0 10 0	71	2 4 5	126	3 18 9	410	12 16 3
17	0 10 8	72	2 5 0	127	3 19 5	420	13 2 6
18	0 11 3	73	2 5 8	128	4 0 0	430	13 8 9
19	0 11 11	74	2 6 3	129	4 0 8	440	13 15 0
20	0 12 6	75	2 6 11	130	4 1 3	450	14 1 3
21	0 13 2	76	2 7 6	131	4 1 11	460	14 7 6
22	0 13 9	77	2 8 2	132	4 2 6	470	14 13 9
23	0 14 5	78	2 8 9	133	4 3 2	480	15 0 0
24	0 15 0	79	2 9 5	134	4 3 9	490	15 6 3
25	0 15 8	80	2 10 0	135	4 4 5	500	15 12 6
26	0 16 3	81	2 10 8	136	4 5 0	510	15 18 9
27	0 16 11	82	2 11 3	137	4 5 8	520	16 5 0
28	0 17 6	83	2 11 11	138	4 6 3	530	16 11 3
29	0 18 2	84	2 12 6	139	4 6 11	540	16 17 6
30	0 18 9	85	2 13 2	140	4 7 6	550	17 3 9
31	0 19 5	86	2 13 9	141	4 8 2	560	17 10 0
32	1 0 0	87	2 14 5	142	4 8 9	570	17 16 3
33	1 0 8	88	2 15 0	143	4 9 5	580	18 2 6
34	1 1 3	89	2 15 8	144	4 10 0	590	18 8 9
35	1 1 11	90	2 16 3	145	4 10 8	600	18 15 0
36	1 2 6	91	2 16 11	146	4 11 3	620	19 7 6
37	1 3 2	92	2 17 6	147	4 11 11	640	20 0 0
38	1 3 9	93	2 18 2	148	4 12 6	660	20 12 6
39	1 4 5	94	2 18 9	149	4 13 2	680	21 5 0
40	1 5 0	95	2 19 5	150	4 13 9	700	21 17 6
41	1 5 8	96	3 0 0	155	4 16 11	720	22 10 0
42	1 6 3	97	3 0 8	160	5 0 0	740	23 2 6
43	1 6 11	98	3 1 3	165	5 3 2	760	23 15 0
44	1 7 6	99	3 1 11	170	5 6 3	780	24 7 6
45	1 8 2	100	3 2 6	175	5 9 5	800	25 0 0
46	1 8 9	101	3 3 2	180	5 12 6	820	25 12 6
47	1 9 5	102	3 3 9	185	5 15 8	840	26 5 0
48	1 10 0	103	3 4 5	190	5 18 9	860	26 17 6
49	1 10 8	104	3 5 0	195	6 1 11	880	27 10 0
50	1 11 3	105	3 5 8	200	6 5 0	900	28 2 6
51	1 11 11	106	3 6 3	210	6 11 3	920	28 15 0
52	1 12 6	107	3 6 11	220	6 17 6	940	29 7 6
53	1 13 2	108	3 7 6	230	7 3 9	960	30 0 0
54	1 13 9	109	3 8 2	240	7 10 0	980	30 12 6
55	1 14 5	110	3 8 9	250	7 16 3	1000	31 5 0

LIVERPOOL CORPORATION WATERWORKS.

COMPOUND HOUSES AND SHOPS.

Within the City of Liverpool and Borough of Bootle.

Asst.	Water Rent.	Asst.	Water Rent.	Asst.	Water Rent.	Asst.	Water Rent.	Asst.	Water Rent.	Asst.	Water Rent.	Asst.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
51	1 11 8	101	2 9 0	151	3 6 4	201	4 3 9	251	5 1 1	301	5 18 5	351	6 15 10
52	1 12 0	102	2 9 4	152	3 6 8	202	4 4 1	252	5 1 5	302	5 18 9	352	6 16 2
53	1 12 4	103	2 9 8	153	3 7 1	203	4 4 5	253	5 1 9	303	5 19 2	353	6 16 6
54	1 12 8	104	2 10 0	154	3 7 5	204	4 4 9	254	5 2 1	304	5 19 6	354	6 16 10
55	1 13 0	105	2 10 5	155	3 7 9	205	4 5 1	255	5 2 6	305	5 19 10	355	6 17 2
56	1 13 4	106	2 10 9	156	3 8 1	206	4 5 5	256	5 2 10	306	6 0 2	356	6 17 6
57	1 13 9	107	2 11 1	157	3 8 5	207	4 5 10	257	5 3 2	307	6 0 6	357	6 17 11
58	1 14 1	108	2 11 5	158	3 8 9	208	4 6 2	258	5 3 6	308	6 0 10	358	6 18 3
59	1 14 5	109	2 11 9	159	3 9 2	209	4 6 6	259	5 3 10	309	6 1 3	359	6 18 7
60	1 14 9	110	2 12 1	160	3 9 6	210	4 6 10	260	5 4 2	310	6 1 7	360	6 18 11
61	1 15 1	111	2 12 6	161	3 9 10	211	4 7 2	261	5 4 7	311	6 1 11	361	6 19 3
62	1 15 5	112	2 12 10	162	3 10 2	212	4 7 6	262	5 4 11	312	6 2 3	362	6 19 7
63	1 15 10	113	2 13 2	163	3 10 6	213	4 7 11	263	5 5 3	313	6 2 7	363	7 0 0
64	1 16 2	114	2 13 6	164	3 10 10	214	4 8 3	264	5 5 7	314	6 2 11	364	7 0 4
65	1 16 6	115	2 13 10	165	3 11 3	215	4 8 7	265	5 5 11	315	6 3 4	365	7 0 8
66	1 16 10	116	2 14 2	166	3 11 7	216	4 8 11	266	5 6 3	316	6 3 8	366	7 1 0
67	1 17 2	117	2 14 7	167	3 11 11	217	4 9 3	267	5 6 8	317	6 4 0	367	7 1 4
68	1 17 6	118	2 14 11	168	3 12 3	218	4 9 7	268	5 7 0	318	6 4 4	368	7 1 8
69	1 17 10	119	2 15 3	169	3 12 7	219	4 10 0	269	5 7 4	319	6 4 8	369	7 2 1
70	1 18 3	120	2 15 7	170	3 12 11	220	4 10 4	270	5 7 8	320	6 5 0	370	7 2 5
71	1 18 7	121	2 15 11	171	3 13 4	221	4 10 8	271	5 8 0	321	6 5 5	371	7 2 9
72	1 18 11	122	2 16 3	172	3 13 8	222	4 11 0	272	5 8 4	322	6 5 9	372	7 3 1
73	1 19 3	123	2 16 8	173	3 14 0	223	4 11 4	273	5 8 9	323	6 6 1	373	7 3 5
74	1 19 7	124	2 17 0	174	3 14 4	224	4 11 8	274	5 9 1	324	6 6 5	374	7 3 9
75	1 19 11	125	2 17 4	175	3 14 8	225	4 12 1	275	5 9 5	325	6 6 9	375	7 4 2
76	2 0 4	126	2 17 8	176	3 15 0	226	4 12 5	276	5 9 9	326	6 7 1	376	7 4 6
77	2 0 8	127	2 18 0	177	3 15 5	227	4 12 9	277	5 10 1	327	6 7 6	377	7 4 10
78	2 1 0	128	2 18 4	178	3 15 9	228	4 13 1	278	5 10 5	328	6 7 10	378	7 5 2
79	2 1 4	129	2 18 9	179	3 16 1	229	4 13 5	279	5 10 10	329	6 8 2	379	7 5 6
80	2 1 8	130	2 19 1	180	3 16 5	230	4 13 9	280	5 11 2	330	6 8 6	380	7 5 10
81	2 2 1	131	2 19 5	181	3 16 9	231	4 14 2	281	5 11 6	331	6 8 10	381	7 6 3
82	2 2 5	132	2 19 9	182	3 17 1	232	4 14 6	282	5 11 10	332	6 9 2	382	7 6 7
83	2 2 9	133	3 0 1	183	3 17 6	233	4 14 10	283	5 12 2	333	6 9 7	383	7 6 11
84	2 3 1	134	3 0 5	184	3 17 10	234	4 15 2	284	5 12 6	334	6 9 11	384	7 7 3
85	2 3 5	135	3 0 10	185	3 18 2	235	4 15 6	285	5 12 11	335	6 10 3	385	7 7 7
86	2 3 9	136	3 1 2	186	3 18 6	236	4 15 10	286	5 13 3	336	6 10 7	386	7 7 11
87	2 4 2	137	3 1 6	187	3 18 10	237	4 16 3	287	5 13 7	337	6 10 11	387	7 8 4
88	2 4 6	138	3 1 10	188	3 19 2	238	4 16 7	288	5 13 11	338	6 11 3	388	7 8 8
89	2 4 10	139	3 2 2	189	3 19 7	239	4 16 11	289	5 14 3	339	6 11 8	389	7 9 0
90	2 5 2	140	3 2 6	190	3 19 11	240	4 17 3	290	5 14 7	340	6 12 0	390	7 9 4
91	2 5 6	141	3 2 11	191	4 0 3	241	4 17 7	291	5 15 0	341	6 12 4	400	7 12 10
92	2 5 10	142	3 3 3	192	4 0 7	242	4 17 11	292	5 15 4	342	6 12 8	500	9 7 6
93	2 6 3	143	3 3 7	193	4 0 11	243	4 18 4	293	5 15 8	343	6 13 0	600	11 2 3
94	2 6 7	144	3 3 11	194	4 1 3	244	4 18 8	294	5 16 0	344	6 13 4	700	12 17 0
95	2 6 11	145	3 4 3	195	4 1 8	245	4 19 0	295	5 16 4	345	6 13 9	800	14 11 8
96	2 7 3	146	3 4 7	196	4 2 0	246	4 19 4	296	5 16 8	346	6 14 1	900	16 6 5
97	2 7 7	147	3 5 0	197	4 2 4	247	4 19 8	297	5 17 1	347	6 14 5	1000	18 1 2
98	2 7 11	148	3 5 4	198	4 2 8	248	5 0 0	298	5 17 5	348	6 14 9	1500	26 14 9
99	2 8 4	149	3 5 8	199	4 3 0	249	5 0 5	299	5 17 9	349	6 15 1	2000	35 8 4
100	2 8 8	150	3 6 0	200	4 3 4	250	5 0 9	300	5 18 1	350	6 15 5	2500	44 2 0

LIVERPOOL CORPORATION WATERWORKS.

PRIVATE DWELLING HOUSES.

Beyond the City (except Borough of Bootle).

At 10½d. in the £.

Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
1	0 0 10½	56	2 9 0	111	4 17 2	260	11 7 6
2	0 1 9	57	2 9 11	112	4 18 0	270	11 15 3
3	0 2 8	58	2 10 9	113	4 18 11	280	12 5 0
4	0 3 6	59	2 11 8	114	4 19 9	290	12 13 9
5	0 4 5	60	2 12 6	115	5 0 8	300	13 2 6
6	0 5 3	61	2 13 5	116	5 1 6	310	13 11 3
7	0 6 2	52	2 14 3	117	5 2 5	320	14 0 0
8	0 7 0	63	2 15 2	118	5 3 3	330	14 8 9
9	0 7 11	64	2 16 0	119	5 4 2	340	14 17 6
10	0 8 9	65	2 16 11	120	5 5 0	350	15 6 3
11	0 9 8	66	2 17 9	121	5 5 11	360	15 15 0
12	0 10 6	67	2 18 8	122	5 6 9	370	16 3 9
13	0 11 5	68	2 19 6	123	5 7 8	380	16 12 6
14	0 12 3	69	3 0 5	124	5 8 6	390	17 1 3
15	0 13 2	70	3 1 3	125	5 9 5	400	17 10 0
16	0 14 0	71	3 2 2	126	5 10 3	410	17 18 9
17	0 14 11	72	3 3 0	127	5 11 2	420	18 7 6
18	0 15 9	73	3 3 11	128	5 12 0	430	18 16 3
19	0 16 8	74	3 4 9	129	5 12 11	440	19 5 0
20	0 17 6	75	3 5 8	130	5 13 9	450	19 13 9
21	0 18 5	76	3 6 6	131	5 14 8	460	20 2 6
22	0 19 3	77	3 7 5	132	5 15 6	470	20 11 3
23	1 0 2	78	3 8 3	133	5 16 5	480	21 0 0
24	1 1 0	79	3 9 2	134	5 17 3	490	21 8 9
25	1 1 11	80	3 10 0	135	5 18 2	500	21 17 6
26	1 2 9	81	3 10 11	136	5 19 0	510	22 6 3
27	1 3 8	82	3 11 9	137	5 19 11	520	22 15 0
28	1 4 6	83	3 12 8	138	6 0 9	530	23 3 9
29	1 5 5	84	3 13 6	139	6 1 8	540	23 12 6
30	1 6 3	85	3 14 5	140	6 2 6	550	24 1 3
31	1 7 2	86	3 15 3	141	6 3 5	560	24 10 0
32	1 8 0	87	3 16 2	142	6 4 3	570	24 18 9
33	1 8 11	88	3 17 0	143	6 5 2	580	25 7 6
34	1 9 9	89	3 17 11	144	6 6 0	590	25 16 3
35	1 10 8	90	3 18 9	145	6 6 11	600	26 5 0
36	1 11 6	91	3 19 8	146	6 7 9	620	27 2 6
37	1 12 5	92	4 0 6	147	6 8 8	640	28 0 0
38	1 13 3	93	4 1 5	148	6 9 6	660	28 17 6
39	1 14 2	94	4 2 3	149	6 10 5	680	29 15 0
40	1 15 0	95	4 3 2	150	6 11 3	700	30 12 6
41	1 15 11	96	4 4 0	155	6 15 8	720	31 10 0
42	1 16 9	97	4 4 11	160	7 0 0	740	32 7 6
43	1 17 8	98	4 5 9	165	7 4 5	760	33 5 0
44	1 18 6	99	4 6 8	170	7 8 9	780	34 2 6
45	1 19 5	100	4 7 6	175	7 13 2	800	35 0 0
46	2 0 3	101	4 8 5	180	7 17 6	820	35 17 6
47	2 1 2	102	4 9 3	185	8 1 11	840	36 15 0
48	2 2 0	103	4 10 2	190	8 6 3	860	37 12 6
49	2 2 11	104	4 11 0	195	8 10 8	880	38 10 0
50	2 3 9	105	4 11 11	200	8 15 0	900	39 7 6
51	2 4 8	106	4 12 9	210	9 3 9	920	40 5 0
52	2 5 6	107	4 13 8	220	9 12 6	940	41 2 6
53	2 6 5	108	4 14 6	230	10 1 3	960	42 0 0
54	2 7 3	109	4 15 5	240	10 10 0	980	42 17 6
55	2 8 2	110	4 16 3	250	10 18 9	1000	43 15 0

LIVERPOOL CORPORATION WATERWORKS.

OFFICES AND SHOPS.

At 5½d. in the £. Beyond the City (except Borough of Bootle).

Assess.	Water Rent.	Assess.	Water Rent.	Assess.	Water Rent.	Assess.	Water Rent.	Assess.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
5	0 2 4	45	1 0 8	85	1 19 0	125	2 17 4	165	3 15 8
6	0 2 9	46	1 1 1	86	1 19 5	126	2 17 9	166	3 16 1
7	0 3 3	47	1 1 7	87	1 19 11	127	2 18 3	167	3 16 7
8	0 3 8	48	1 2 0	88	2 0 4	128	2 18 8	168	3 17 0
9	0 4 2	49	1 2 6	89	2 0 10	129	2 19 2	169	3 17 6
10	0 4 7	50	1 2 11	90	2 1 3	130	2 19 7	170	3 17 11
11	0 5 1	51	1 3 5	91	2 1 9	131	3 0 1	171	3 18 5
12	0 5 6	52	1 3 10	92	2 2 2	132	3 0 6	172	3 18 10
13	0 6 0	53	1 4 4	93	2 2 8	133	3 1 0	173	3 19 4
14	0 6 5	54	1 4 9	94	2 3 1	134	3 1 5	174	3 19 9
15	0 6 11	55	1 5 3	95	2 3 7	135	3 1 11	175	4 0 3
16	0 7 4	56	1 5 8	96	2 4 0	136	3 2 4	176	4 0 8
17	0 7 10	57	1 6 2	97	2 4 6	137	3 2 10	177	4 1 2
18	0 8 3	58	1 6 7	98	2 4 11	138	3 3 3	178	4 1 7
19	0 8 9	59	1 7 1	99	2 5 5	139	3 3 9	179	4 2 1
20	0 9 2	60	1 7 6	100	2 5 10	140	3 4 2	180	4 2 6
21	0 9 8	61	1 8 0	101	2 6 4	141	3 4 8	181	4 3 0
22	0 10 1	62	1 8 5	102	2 6 9	142	3 5 1	182	4 3 5
23	0 10 7	63	1 8 11	103	2 7 3	143	3 5 7	183	4 3 11
24	0 11 0	64	1 9 4	104	2 7 8	144	3 6 0	184	4 4 4
25	0 11 6	65	1 9 10	105	2 8 2	145	3 6 6	185	4 4 10
26	0 11 11	66	1 10 3	106	2 8 7	146	3 6 11	186	4 5 3
27	0 12 5	67	1 10 9	107	2 9 1	147	3 7 5	187	4 5 9
28	0 12 10	68	1 11 2	108	2 9 6	148	3 7 10	188	4 6 2
29	0 13 4	69	1 11 8	109	2 10 0	149	3 8 4	189	4 6 8
30	0 13 9	70	1 12 1	110	2 10 5	150	3 8 9	190	4 7 1
31	0 14 3	71	1 12 7	111	2 10 11	151	3 9 3	191	4 7 7
32	0 14 8	72	1 13 0	112	2 11 4	152	3 9 8	192	4 8 0
33	0 15 2	73	1 13 6	113	2 11 10	153	3 10 2	193	4 8 6
34	0 15 7	74	1 13 11	114	2 12 3	154	3 10 7	194	4 8 11
35	0 16 1	75	1 14 5	115	2 12 9	155	3 11 1	195	4 9 5
36	0 16 6	76	1 14 10	116	2 13 2	156	3 11 6	196	4 9 10
37	0 17 0	77	1 15 4	117	2 13 8	157	3 12 0	197	4 10 4
38	0 17 5	78	1 15 9	118	2 14 1	158	3 12 5	198	4 10 9
39	0 17 11	79	1 16 3	119	2 14 7	159	3 12 11	199	4 11 3
40	0 18 4	80	1 16 8	120	2 15 0	160	3 13 4	200	4 11 8
41	0 18 10	81	1 17 2	121	2 15 6	161	3 13 10	300	6 17 6
42	0 19 3	82	1 17 7	122	2 15 11	162	3 14 3	400	9 3 4
43	0 19 9	83	1 18 1	123	2 16 5	163	3 14 9	500	11 9 2
44	1 0 2	84	1 18 6	124	2 16 10	164	3 15 2	600	13 15 0

LIVERPOOL CORPORATION WATERWORKS.

COMPOUND HOUSES AND SHOPS.

Beyond the City (except Borough of Bootle).

Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.	Assest.	Water Rent.
£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
51	2 4 4	91	3 8 3	131	4 12 2	171	5 16 0	211	6 19 11
52	2 4 11	92	3 8 10	132	4 12 9	172	5 16 7	212	7 0 6
53	2 5 7	93	3 9 5	133	4 13 4	173	5 17 3	213	7 1 1
54	2 6 2	94	3 10 0	134	4 13 11	174	5 17 10	214	7 1 8
55	2 6 9	95	3 10 8	135	4 14 6	175	5 18 5	215	7 2 4
56	2 7 4	96	3 11 3	136	4 15 1	176	5 19 0	216	7 2 11
57	2 7 11	97	3 11 10	137	4 15 9	177	5 19 7	217	7 3 6
58	2 8 6	98	3 12 5	138	4 16 4	178	6 0 2	218	7 4 1
59	2 9 2	99	3 13 0	139	4 16 11	179	6 0 10	219	7 4 8
60	2 9 9	100	3 13 7	140	4 17 6	180	6 1 5	220	7 5 3
61	2 10 4	101	3 14 3	141	4 18 1	181	6 2 0	221	7 5 11
62	2 10 11	102	3 14 10	142	4 18 8	182	6 2 7	222	7 6 6
63	2 11 6	103	3 15 5	143	4 19 4	183	6 3 2	223	7 7 1
64	2 12 1	104	3 16 0	144	4 19 11	184	6 3 9	224	7 7 8
65	2 12 9	105	3 16 7	145	5 0 6	185	6 4 5	225	7 8 3
66	2 13 4	106	3 17 2	146	5 1 1	186	6 5 0	226	7 8 10
67	2 13 11	107	3 17 10	147	5 1 8	187	6 5 7	227	7 9 6
68	2 14 6	108	3 18 5	148	5 2 3	188	6 6 2	228	7 10 1
69	2 15 1	109	3 19 0	149	5 2 11	189	6 6 9	229	7 10 8
70	2 15 8	110	3 19 7	150	5 3 6	190	6 7 4	230	7 11 3
71	2 16 4	111	4 0 2	151	5 4 1	191	6 8 0	231	7 11 10
72	2 16 11	112	4 0 9	152	5 4 8	192	6 8 7	232	7 12 5
73	2 17 6	113	4 1 5	153	5 5 3	193	6 9 2	233	7 13 1
74	2 18 1	114	4 2 0	154	5 5 10	194	6 9 9	234	7 13 8
75	2 18 8	115	4 2 7	155	5 6 6	195	6 10 4	235	7 14 3
76	2 19 3	116	4 3 2	156	5 7 1	196	6 10 11	236	7 14 10
77	2 19 11	117	4 3 9	157	5 7 8	197	6 11 7	237	7 15 5
78	3 0 6	118	4 4 4	158	5 8 3	198	6 12 2	238	7 16 0
79	3 1 1	119	4 5 0	159	5 8 10	199	6 12 9	239	7 16 8
80	3 1 8	120	4 5 7	160	5 9 5	200	6 13 4	240	7 17 3
81	3 2 3	121	4 6 2	161	5 10 1	201	6 13 11	241	7 17 10
82	3 2 10	122	4 6 9	162	5 10 8	202	6 14 6	242	7 18 5
83	3 3 6	123	4 7 4	163	5 11 3	203	6 15 2	243	7 19 0
84	3 4 1	124	4 7 11	164	5 11 10	204	6 15 9	244	7 19 7
85	3 4 8	125	4 8 7	165	5 12 5	205	6 16 4	245	8 0 3
86	3 5 3	126	4 9 2	166	5 13 0	206	6 16 11	246	8 0 10
87	3 5 10	127	4 9 9	167	5 13 8	207	6 17 6	247	8 1 5
88	3 6 5	128	4 10 4	168	5 14 3	208	6 18 1	248	8 2 0
89	3 7 1	129	4 10 11	169	5 14 10	209	6 18 9	249	8 2 7
90	3 7 8	130	4 11 6	170	5 15 5	210	6 19 4	250	8 3 2

LIVERPOOL CORPORATION WATERWORKS.

COMPOSITION FOR WATER RENTS.

By the Liverpool Improvement and Waterworks Act, 1871, section 47, it is provided—"Where the **Net Yearly Ratable Value** of any premises within the" "limits of the supply of Water by the Corporation **does not exceed Thirteen**" "**Pounds,** the Owner shall from time to time, by way of Composition for pay-" "ment of the **several Rates,** under the recited Waterworks Acts, be rated upon" "a reduced estimate of **three-fourths** of the Net Yearly Ratable Value of the" "Premises, whether the same be occupied or not."

SUNDRY CHARGES FOR WATER.

Schools within the City of Liverpool and Borough of Bootle.

			s.	d.		Water Closet s.	d.	
Not exceeding	150	Scholars	7	0	..	5	0	50% added for Schools and Churches outside of the City (except Borough of Bootle.)
Ditto	300	do.	14	0	..	10	0	
Ditto	450	do.	21	0	..	15	0	
Ditto	600	do.	28	0	..	20	0	
Ditto	750	do.	35	0	..	25	0	
Ditto	900	do.	42	0	..	30	0	
Ditto	1050	do.	49	0	..	35	0	
Ditto	1200	do.	56	0	..	40	0	
Ditto	1350	do.	63	0	..	45	0	
Ditto	1500	do.	70	0	..	50	0	

Places of Worship.

						each additional W.C		
Churches and Chapels, Minimum (including one W.C.)			10	6	..	6	0	
Ditto	do.	Maximum do.	21	0	..	6	0	

or by special agreement.

8

Charges for Sundry and Miscellaneous Supplies of Water.

NATURE OF THE SUPPLY.	RATE OF CHARGES. In City of Liverpool and in Borough of Bootle.	In Suburban Districts.
Horses .. ..per Annum.	4/ 5/- each.	6/ 7/6 each. Water Committee 24.1.99
Do. Bait .. .. ,,	2/6 ,,	5/- ,,
Donkeys .. .. ,,	1/6 ,,	2/3 ,,
Cows .. .. ,,	3/- ,,	4/6 ,,
Do. Bait .. .. ,,	1/6 ,,	3/- ,,
Washing Four Wheeled Vehicles and Hansom Cabs .. .. ,,	10/- ,,	15/- ,,
Washing all Two Wheeled Vehicles other than Hansom Cabs .. .. ,,	5/- ,,	7/6 ,,
Smithy Hearths .. .. .. ,,	6/8 ,,	10/- ,,
Bhoon Washing .. .. .. ,,	10/6 each shop.	15/9 each shop.
Caretakers .. .. ,,	10/-	15/-
Gardens supplied by Hose, viz. Not exceeding an area of 500 square yards .. .. ,,	10/-	10/-
Every additional 500 square yards, or fraction thereof up to 3500 square yards ,,	5/-	5/-
Beyond this area	By Special Agreement	By Special Agreement.
Washing Walls and Windows by Hose .. .. ,,	6d. per lineal yard.	9d. per lineal yard.
For Building purposes, viz.:		
On gross rental of premises to be erected	at 4d. in £	at 6d. in £
Or on each £100 of the Building Contract	5/-	7/6
Meter Supply	6d. per 1000 galls.	9d. per 1000 galls.
The Minimum charge for supply by Meter is 5/- per quarter, exclusive of the Meter Rent; and no partial supply will be given except upon terms to be specially arranged		
Steam Engines per H.P....	21/-	31/6
Gas Engines per H.P.	2/6	3/9
To Shipping	2/6 per 1000 gallons, but supplies not not exceeding 1000 gallons to be charged for at the rate of 6d. per 100 gallons. A charge of 1/- to be made in each case for attendance of Turncock, but if Turncock's attendance is required for more than one hour, the charge to be at the rate of 1/- per hour.	

BY ORDER,

RICHARD BARROW,

3rd. February, 1897. *Controller and Auditor of Accounts*

Appendix B—Exhibit 2.

BILL AGAINST LANDLORD.

N.B.—If you have ceased to be the Owner or Agent of this Property, please return this Bill at once to the Collector.

CITY OF LIVERPOOL.

GENERAL AND WATER RATES; AND WATER RENT AND CHARGES.

YEAR 1902.

DISTRICT OF THE PARISH OF LIVERPOOL.

Mr. _____ *Owner or Agent.*

For Rates and Water Rent on Tenements in Street.

R. No.

Assessment £_____

District No. 8.

GENERAL RATE (Including Charges in respect of Debt and General Expenditure.) @ 3s. 6¼d. in the £
(Levied under the Liverpool Corporation Act, 1898.)
Less 50 per cent. allowed...

WATER RATE .....@ 6d. in the £
Less 25 per cent. allowed...

WATER RENT (for Domestic purposes) @ 7½d. in the £
Less 25 per cent. allowed...

Cancelled

The above Rates and Water Rent are now due, February, 1902, and are hereby demanded, pursuant to Act of Parliament, and unless the amount be paid at the Office on or before the 31st May next, proceedings for the recovery thereof will be taken. £

PLEASE BRING THIS BILL WITH YOU AND REQUIRE A PRINTED CHEQUE RECEIPT.

Office Hours from 9 to 5 o'clock, except on Saturday, then from 9 to 1 o'clock. Collector in attendance each day from 4 to 5 o'clock, except Saturday, then from 12 to 1 o'clock.

MUNICIPAL BUILDINGS, DALE STREET, LIVERPOOL.

See Notice on Back of Bill.

WILLIAM JAMES, COLLECTOR.

Notice to Owners of Premises assessed at £13 and under.

Composition for Rates.

By the Liverpool Improvement Act, 1867, section 68, it is enacted as follows:—"Where the Net "Yearly Rateable Value of any premises does not exceed Thirteen Pounds, the Owner shall, from "time to time, by way of Composition for payment of the several Rates, under the recited Acts "and this Act respectively, be rated upon a reduced estimate of one-half the Net Yearly Rateable Value "of the Premises, whether the same be occupied or not."

Composition for Water Rate and Water Rent.

By the Liverpool Improvement and Waterworks Act, 1871, section 47 (1), it is enacted as follows:—"Where the Net Yearly Rateable Value of any premises within the limits of the supply of Water by "the Corporation does not exceed Thirteen Pounds, the Owner shall from time to time, by way of "Composition for payment of the several Rates, under the recited Waterworks Acts, be rated upon a "reduced estimate of three-fourths of the Net Yearly Rateable Value of the Premises, whether the same "be occupied or not."

All necessary information may be obtained at the Collector's Office, Municipal Buildings, Dale Street, Liverpool.

TAKE NOTICE.—Persons supplied with water are liable to penalties:—for supplying any other person, or wilfully permitting any other person to take water from their premises (except in case of fire); for causing or suffering any fittings to be out of repair, or to be so used or contrived that the water is, or is likely to be wasted, misused, unduly consumed or contaminated; for using the water for purposes other than those for which the supply was given,—as, using a domestic supply for fountains or ornamental purposes, or for trade or manufacture; for extending or altering any communication pipe, service-pipe, or apparatus, without the consent of the Corporation, or for using the water through a hose or movable pipe, except by agreement with the Corporation.

RATE BILL TO CONSUMER.

CITY OF LIVERPOOL.

GENERAL and WATER RATES; and WATER RENT and CHARGES.

YEAR 1902.

Commencing 1st January and ending on the 31st December, 1902.

District of the Parish of Liverpool.

Mr. *No.* *Street.*

R. No.

ASSESSMENT.*

£50

District No.

*This Assessment is by Act of Parliament in accordance with the Poor Rate for the preceding year, and consequently cannot be altered to agree with any change of the Poor Rate for this year.

GENERAL RATE (Including Charges in Respect of Debt and General Expenditure. Levied under The Liverpool Corporation Act, 1892.) @ 3s. 6¼d. in the £

WATER RATE ... Sanitary Rate ... @ 6d. in the £

N.B.—If there is no lease or contract to the contrary, the Tenant is entitled to deduct from the Owner, out of the Rent, in respect of Sewer Purposes, 1d. in the £, and in respect of the Water Rate 3d. in the £, on the assessment.
(*Resolution of the Council, 5th February, 1902.*)

WATER RENT..... (for Domestic purposes) ..... @ 7½d. in the £

£ 25

The above Rates are now due (February, 1902), in advance, according to Act of Parliament, and are hereby demanded.

The Water Rent is payable in advance by equal quarterly payments on the 1st January, 1st April, 1st July, and 1st October; and any person giving notice to discontinue the use of Water, or removing from premises between any two quarterly days, is liable to pay the Water Rent for the full quarter ending on the quarter day next after quitting or giving such notice.

TAKE NOTICE.—Persons supplied with Water are liable to penalties:—For supplying any other person, or wilfully permitting any other person to take Water from their premises (except in case of fire); for causing or suffering any fittings to be out of repair, or to be so used or contrived that the Water is or is likely to be wasted, misused, unduly consumed, or contaminated; for using the Water for purposes other than those for which the supply was given, as—using a domestic supply for fountains or ornamental purposes, or for trade or manufacture; for extending or altering any communication-pipe, service-pipe, or apparatus, without the consent of the Corporation; or for using the Water through a hose or movable pipe, except by agreement with the Corporation.

Office Hours from 9 to 5 o'clock, except on Saturday from 9 to 1 o'clock. Collector in attendance each day from 4 to 5 o'clock, except Saturday, then from 12 to 1 o'clock.

Municipal Buildings, Dale Street, Liverpool.

Please bring this Bill with you and require a Printed Cheque Receipt.

COLLECTOR.

REVERSE SIDE OF ABOVE BILL.

GENERAL EXPENDITURE.

Paving and Sewering.
Cleansing Streets.
Cleansing Ashpits and Removal of House Refuse.
Sanitary Departments.
Insanitary Property.
Artizans' Dwellings.
Hospitals.
Lighting.
Fire Police.
Street Improvements.
Public Parks and Places of Recreation.
Museums.

MUNICIPAL BUILDINGS, DALE STREET,

COLLECTOR'S OFFICE,

Liverpool,.....190

M.....

To THE LIVERPOOL CORPORATION WATERWORKS, Dr.

For Water Supplied to your Premises in.....Street.

DATE.	METER INDEX.	WATER CONSUMED IN 1000 GALLONS.	PRICE PER 1000 GALLONS	AMOUNT.
190				

DISTRICT No. METER RENT.....

£

Water and Meter Rents are due and payable Quarterly, and the amount, as stated above, IS NOW DUE, and is hereby demanded; and if not paid within Fourteen days from the date hereof, you will be rendered liable to having a Summons issued against you for the recovery of the same, and the Water withdrawn from the Premises.

TAKE NOTICE That Persons supplied with Water are liable to Penalties for supplying or permitting any other Persons to use or take Water from their premises (except in cases of Fire,) or for wilfully wasting or applying the Water for any other purposes than those agreed upon, as also for using the Water without agreement, or for fixing, extending, or enlarging any Pipe for Water purposes, without the knowledge or consent of the Council.

PLEASE REQUIRE A PRINTED CHECK RECEIPT.

.....COLLECTOR.

O.247.10,000.8/02.

CHARGES FOR SUPPLY OF WATER BY METER.

The charge for Water supplied by Meter is at the rate of 6d. per 1000 gallons within the City and in the Borough of Bootle, and at the rate of 9d. per 1000 gallons without the City.

No supply by Meter will be given at a less rate than 5/- per Quarter, exclusive of Meter Rent; and no partial supply will be given except by special agreement.

LEDGER. 189 . DISTRICT NO..... COLLECTOR.....

				S. or W. / N.
Reference No.				
Premises.		No.		
		Description.		
Occupier.				
Owner.				
Assessments.	On Premises, the Ratable Value of which does not exceed £13.		Rated on three-fourths the Assessment for Water Rate and Water Rent.	
			Rated on one-half the Assessment for General Rate.	
	On Property not included in Poor Rate Assessment, with net Annual value thereon.			
	Net Annual value according to Poor Rate Assessment for preceding year.			
Debits for the Year.	Water Rent.		Advances.	
			@ d. in £ for 189	
		Miscellaneous Charges.	Amount.	
			Particulars.	
			Arrears from 189	
	Water Rate.		Advances.	
			@ d. in £ for 189	
			Arrears from 189	
	General Rate.		Advances.	
			@ d. in £ for 189	
			Arrears from 189	
Total Debit.				
Cash Received.			Amount.	
			Date.	
Allowances and Losses.	Water Rent.		Losses.	
			Empty Property.	
			Reductions.	
			Discounts.	
	Water Rate.		Losses.	
			Empty Property.	
			Reductions.	
			Discounts.	
	General Rate.		Losses.	
			Empty Property	
			Reductions.	
			Discounts.	
Arrears carried forward to 189			Water Rent.	
			Water Rate.	
			General Rate.	
Total Credit.				

Remarks.

Columns are here shown reduced, but in the original show necessary spaces for rulings.

COLLECTOR'S RETURN.

Arrears, Notices, etc.			
Magistrates.		W. No.	
		S. No.	
Remarks.			
Arrears Carried Forw'd to 1901.	Total Rates and Water Rent Owing.		
	Water Rent Owing.	Arrears.	
		1900.	
	Water Rate Owing.	Arrears.	
		1900.	
	General Rate Owing.	Arrears.	
		1900.	
Water Rent.	Irrecoverable.	Arrears.	
		Bankrupts, etc.	
		1900.	
	Empty.	1900.	
	Reductions.		
Water Rate.	Irrecoverable.	Arrears.	
		Bankrupts, etc.	
		M. O.	
		1900.	
	Empty.	1900.	
	Reductions.		
General Rate.	Irrecoverable.	Arrears.	
		Bankrupts, etc.	
		M. O.	
		1900.	
	Empty.	1900.	
	Reductions.		
Date of Empty and Irrecoverable.		To	
		From	
Assessment.			
Street.			
House No.			
Name.			
Rate Book No.			

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Appendix B—Exhibit 3.

LIVERPOOL CORPORATION WATERWORKS.

PART OF THE ENGINEER'S REPORT FOR YEAR ENDING DECEMBER 31, 1901.

SUPPLY OF WATER.

Low Rainfall of Year.

From a waterworks point of view the year 1901 was chiefly remarkable for the low and irregular fall of rain over a considerable part of Great Britain, and particularly over gathering grounds in the northern and north Midland counties. In many important towns and districts the usual constant service of water had to be temporarily abandoned, and great inconvenience was suffered both by domestic and trade consumers.

Notwithstanding the deficient rainfall, a full constant service was maintained throughout the large area supplied from the Liverpool Works, and during the summer a temporary supply from the Vyrnwy Aqueduct was given to the town of Oswestry, which was one of the places that suffered from the extreme drought.

The effect of a protracted summer drought is felt not only in reducing the quantity of water available from sources of supply but also in the increased consumption that then takes place for all purposes. This applies particularly to a City like Liverpool where water closets and private and public baths are so liberally provided, and where water is so freely distributed for public sanitary purposes.

Measurements of the rainfall on the Rivington Watershed have been taken for the last fifty-five years and only twice in that period has the amount of rain fallen below that of 1901. The year of lowest rainfall was 1887, and the next lowest 1865. At the oldest rainfall station on the Rivington Watershed the amount of rain measured last year was 38.13 inches, as against 30.97 in 1887, and 37.10 in 1865. As will be seen from the diagram at page 18 the Rivington reservoirs were full and overflowing on March 9th, and at the beginning of November the contents had fallen to 1,374 million gallons. The quantity in stock would have been considerably less than this if the full quantity capable of being conveyed by the Aqueduct had been sent forward to Liverpool throughout the period.

It is seldom that the occurrence of one dry year causes so much inconvenience in the waterworks of the country as was experienced last year. It is when there is a succession of two or three dry years that serious deficiency is felt, and the calculations upon which reservoir systems are based usually provide for the occurrence of dry periods such as Liverpool passed through in 1865-7, and again in 1887-9.

Water Sent out of Works.

The total quantity of water delivered from the works of the Corporation during the year 1901, including compensation waters to rivers in Lancashire and Montgomeryshire, was:

IN GALLONS	17,151,469,000
IN CUBIC FEET	2,748,633,000
IN TONS	76,566,000

Distribution of Water.

In the following table particulars are given of the total quantities of water supplied for different purposes, and the average daily quantities supplied, also the average rates per day per head of the population. The total quantities supplied for the previous year (1900) are also given in parallel columns.

TABLE I.

	Total for 52 weeks ended 28th December, 1901.	Average per Day.	Population (mean of Year).	Average Rate per Head per day.	Total for Year 1900.
SUPPLIED WITHIN AND AROUND THE CITY (Compulsory Area).	Gallons.	Gallons.		Gallons.	Gallons.
For trade purposes, by meter	2,327,279,000	6,393,000		7·601	2,306,959,000
For ships, by meter	164,249,000	451,000		0·536	128,642,000
For workhouses and industrial schools, by meter	178,804,000	492,000		0·584	170,439,000
For miscellaneous purposes, by assessment (quantity estimated)..	558,792,000	1,535,000		1·825	551,000,000
For public purposes, including flushing sewers and drains, watering and washing streets, public baths and washhouses, fountains, cattle troughs, urinals, &c...	620,271,000	1,704,000		2·026	621,335,000
For extinguishing fires	6,000,000	17,000		0·020	5,863,000
For domestic purposes, hotels, public-houses, warehouses, offices, shops, and all waste and leakage from public and private pipes and fittings	5,521,185,000	15,168,000		18·032	5,466,490,000
Salt water supplied for trade and public purposes	118,542,000	326,000		0·387	108,203,000
Water for condensing at the Pumping Stations	50,741,000	139,000		0·165	49,647,000
	9,545,953,000	26,225,000	841,174	31·176	9,422,578,000
WATER SUPPLIED OUTSIDE OF THE LIVERPOOL COMPULSORY DISTRICT.					
In the town of Chorley	188,222,000	517,000	27,000	19·151	170,822,000
In towns and districts supplied in bulk from the Rivington and Vyrnwy works (including Standish, Leigh Hindley, Abram, Haydock, Ashton Ince, Withnell, Bulkeley, Bunbury, Ellesmere, Little Budsworth, Malpas, Sutton and Taporley).	525,836,000	1,444,000	150,000		484,755,000
Total	10,260,011,000	28,186,000	1,018,174	—	10,078,155,000

Annual Increase.

The increase of population during the year in the Liverpool (compulsory) water area was 11,728, and the total increase in the quantity of water distributed in the same area was 123,375,000 gallons.

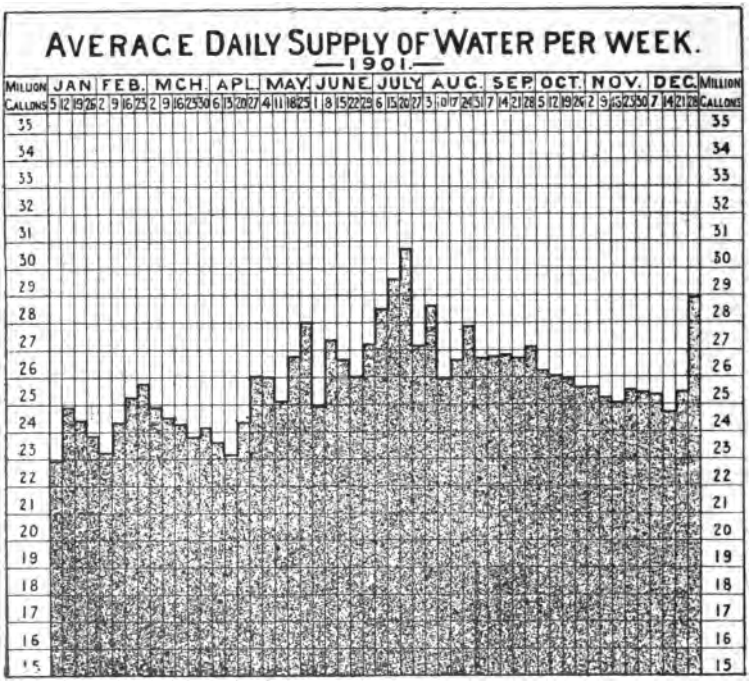
The increase in the sale of water by meter for trade purposes was 50,292,000 gallons. Notwithstanding this increased demand for trade purposes the total rate per head was slightly lower than in the preceding year, so that there was a small reduction in the amount of water wasted.

The quantity supplied by meter under agreement to places outside of the compulsory limits was greater by 41,081,000 gallons than in the year 1900.

Weekly Averages.

The average quantities per day supplied during each week of the year are given in Diagram A. The fluctuations in the demand during different seasons of the year are clearly shown.

Diagram A.



Maximum Demands.

The highest winter consumption occurred during the week ending December 28th, when the quantity distributed was 202,590,000 gallons, being equal to an average per day of 28,941,000 gallons. The highest summer consumption occurred during the week ending July 20th, and amounted to 215,131,000 gallons or an average per day of 30,733,000 gallons. The highest winter consumption in any one day took place on December 24th, when the quantity delivered was 36,840,000 gallons, and the highest summer consumption in one day occurred on July 19th, and amounted to 33,152,000 gallons.

Whence the Water Came.

The water distributed and sold in bulk was obtained from the several sources of supply in the following proportions:

From Vyrnwy	45.58	per cent.
" Rivington	41.15	"
" Wells	13.27	"
	100.00	

These quantities are shown graphically in the next Diagram.

Diagram B.

Water Tenants.

The number of new houses and other new premises supplied with water in the Liverpool District during the year was 3,547. The number of houses pulled down, or from which water was withdrawn, during the year was 805, leaving a net number of 2,742 additional water tenants. The total number of tenants on the Rent roll of the Water Account at the end of the year was 171,086.

EXTENSIONS OF MAINS.

The total length of additional distributing and fire mains laid during the year was 12 miles 974 yards. The following Table gives particulars of the sizes and lengths:

Diameters.	Lengths.
3 inches.	39 yards.
4 "	14,670 "
5 "	1,240 "
6 "	2,284 "
7 "	320 "
8 "	1,504 "
9 "	572 "
12 "	1,465 "
	22,094 yards or 12.553 miles.

Hydrants.

The number of new fire hydrants fixed was 234, and of hydrants substituted for fire-plugs 269, making the total number of hydrants fixed during the year 503.

PREVENTION OF WASTE.

Particulars of the work done during the year by the Plumbing and Waste-Water Inspectors, and by the Department for Testing and Stamping Fittings, are given below.

Plumbing and Waste Inspections.

NUMBER OF PREMISES VISITED.							
First Inspections.						Re-Inspections after Notices.	Total No. of Inspections.
New Supplies.	Building Alterations.	W.C. Conversions.	Examinations after Night Reports.	House to House Inspections.	Cases from Complaint Office Books.		
15,444	563	701	147,690	4,207	11,630	17,929	198,164

DEFECTS DISCOVERED.							
Corporation Pipes.	Private Pipes.	Draw off Cocks, Screw down Cocks Plug Cocks, and Stand Pipes.	Ball Cocks in Store Cisterns.	Water Closet Cisterns.		Total No. of Defects.	No. of defects repaired by Inspector at the time of inspection.
				Valves.	Ball Cocks.		
556	5,662	16,334	508	9,998	4,370	37,428	16,856

Testing and Stamping Department.

Description of Fittings.	Number Tested.
Draw off Cocks and Stop Cocks.....	46,823
Ball Cocks.....	6,250
Cisterns with Ball Cocks.....	7,773
Cisterns without Ball Cocks.....	168
TOTAL.....	61,014

The fees charged for testing and stamping amounted to £684 10sh. 6d.

Appendix C—Exhibit 1.

MANCHESTER CORPORATION WATERWORKS.

Scale of Charges for Water delivered per Meter

DURING EACH QUARTER OF A YEAR.

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
1,000		2	0	38,000	3	1	4	75,000	5	4	0
2,000		4	0	39,000	3	2	9	76,000	5	5	0
3,000		6	0	40,000	3	4	2	77,000	5	6	0
4,000		8	0	41,000	3	5	7	78,000	5	7	0
5,000		10	0	42,000	3	7	0	79,000	5	8	0
6,000		12	0	43,000	3	8	3	80,000	5	9	0
7,000		13	8	44,000	3	9	6	81,000	5	10	0
8,000		15	4	45,000	3	10	9	82,000	5	11	0
9,000		17	0	46,000	3	12	0	83,000	5	12	0
10,000		18	8	47,000	3	13	3	84,000	5	13	0
11,000	1	0	4	48,000	3	14	6	85,000	5	14	0
12,000	1	2	0	49,000	3	15	9	86,000	5	15	0
13,000	1	3	8	50,000	3	17	0	87,000	5	16	0
14,000	1	5	4	51,000	3	18	3	88,000	5	17	0
15,000	1	7	0	52,000	3	19	6	89,000	5	18	0
16,000	1	8	8	53,000	4	0	9	90,000	5	19	0
17,000	1	10	4	54,000	4	2	0	91,000	6	0	0
18,000	1	12	0	55,000	4	3	1	92,000	6	1	0
19,000	1	13	6	56,000	4	4	2	93,000	6	2	0
20,000	1	15	0	57,000	4	5	3	94,000	6	3	0
21,000	1	16	6	58,000	4	6	4	95,000	6	4	0
22,000	1	18	0	59,000	4	7	5	96,000	6	5	0
23,000	1	19	6	60,000	4	8	6	97,000	6	6	0
24,000	2	1	0	61,000	4	9	7	98,000	6	7	0
25,000	2	2	6	62,000	4	10	8	99,000	6	8	0
26,000	2	4	0	63,000	4	11	9	100,000	6	9	0
27,000	2	5	6	64,000	4	12	10	101,000	6	10	0
28,000	2	7	0	65,000	4	13	11	102,000	6	11	0
29,000	2	8	6	66,000	4	15	0	103,000	6	11	11
30,000	2	10	0	67,000	4	16	0	104,000	6	12	10
31,000	2	11	5	68,000	4	17	0	105,000	6	13	9
32,000	2	12	10	69,000	4	18	0	106,000	6	14	8
33,000	2	14	3	70,000	4	19	0	107,000	6	15	7
34,000	2	15	8	71,000	5	0	0	108,000	6	16	6
35,000	2	17	1	72,000	5	1	0	109,000	6	17	5
36,000	2	18	6	73,000	5	2	0	110,000	6	18	4
37,000	2	19	11	74,000	5	3	0	111,000	6	19	3
112,000	7	0	2	157,000	9	1	5	202,000	11	0	10
113,000	7	1	1	158,000	9	2	4	203,000	11	1	8
114,000	7	2	0	159,000	9	3	3	204,000	11	2	6
115,000	7	2	11	160,000	9	4	2	205,000	11	3	4
116,000	7	3	10	161,000	9	5	1	206,000	11	4	2
117,000	7	4	9	162,000	9	6	0	207,000	11	5	0
118,000	7	5	8	163,000	9	6	11	208,000	11	5	10
119,000	7	6	7	164,000	9	7	10	209,000	11	6	8
120,000	7	7	6	165,000	9	8	9	210,000	11	7	6
121,000	7	8	5	166,000	9	9	8	211,000	11	8	4
122,000	7	9	4	167,000	9	10	7	212,000	11	9	2
123,000	7	10	3	168,000	9	11	6	213,000	11	10	0
124,000	7	11	2	169,000	9	12	5	214,000	11	10	10
125,000	7	12	1	170,000	9	13	4	215,000	11	11	8
126,000	7	13	0	171,000	9	14	3	216,000	11	12	6
127,000	7	13	11	172,000	9	15	2	217,000	11	13	4
128,000	7	14	10	173,000	9	16	1	218,000	11	14	2
129,000	7	15	9	174,000	9	17	0	219,000	11	15	0
130,000	7	16	8	175,000	9	17	11	220,000	11	15	10
131,000	7	17	7	176,000	9	18	10	221,000	11	16	8
132,000	7	18	6	177,000	9	19	9	222,000	11	17	6
133,000	7	19	5	178,000	10	0	8	223,000	11	18	4
134,000	8	0	4	179,000	10	1	7	224,000	11	19	2
135,000	8	1	3	180,000	10	2	6	225,000	12	0	0
136,000	8	2	2	181,000	10	3	4	226,000	12	0	9
137,000	8	3	1	182,000	10	4	2	227,000	12	1	6
138,000	8	4	0	183,000	10	5	0	228,000	12	2	3
139,000	8	4	11	184,000	10	5	10	229,000	12	3	0
140,000	8	5	10	185,000	10	6	8	230,000	12	3	9
141,000	8	6	9	186,000	10	7	6	231,000	12	4	6
142,000	8	7	8	187,000	10	8	4	232,000	12	5	3
143,000	8	8	7	188,000	10	9	2	233,000	12	6	0
144,000	8	9	6	189,000	10	10	0	234,000	12	6	9
145,000	8	10	5	190,000	10	10	10	235,000	12	7	6
146,000	8	11	4	191,000	10	11	8	236,000	12	8	3
147,000	8	12	3	192,000	10	12	6	237,000	12	9	0
148,000	8	13	2	193,000	10	13	4	238,000	12	9	9
149,000	8	14	1	194,000	10	14	2	239,000	12	10	6
150,000	8	15	0	195,000	10	15	0	240,000	12	11	3
151,000	8	15	11	196,000	10	15	10	241,000	12	12	0
152,000	8	16	10	197,000	10	16	8	242,000	12	12	9
153,000	8	17	9	198,000	10	17	6	243,000	12	13	6
154,000	8	18	8	199,000	10	18	4	244,000	12	14	3
155,000	8	19	7	200,000	10	19	2	245,000	12	15	0
156,000	9	0	6	201,000	11	0	0	246,000	12	15	9

Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
247,000	12 16 6	292,000	14 9 8	337,000	16 19 8
248,000	12 17 3	293,000	14 10 4	338,000	16 0 4
249,000	12 18 0	294,000	14 11 0	339,000	16 1 0
250,000	12 18 9	295,000	14 11 8	340,000	16 1 8
251,000	12 19 6	296,000	14 12 4	341,000	16 2 4
252,000	13 0 3	297,000	14 13 0	342,000	16 3 0
253,000	13 1 0	298,000	14 13 8	343,000	16 3 8
254,000	13 1 9	299,000	14 14 4	344,000	16 4 4
255,000	13 2 6	300,000	14 15 0	345,000	16 5 0
256,000	13 3 3	301,000	14 15 8	346,000	16 5 8
257,000	13 4 0	302,000	14 16 4	347,000	16 6 4
258,000	13 4 9	303,000	14 17 0	348,000	16 7 0
259,000	13 5 6	304,000	14 17 8	349,000	16 7 8
260,000	13 6 3	305,000	14 18 4	350,000	16 8 4
261,000	13 7 0	306,000	14 19 0	351,000	16 9 0
262,000	13 7 9	307,000	14 19 8	352,000	16 9 8
263,000	13 8 6	308,000	15 0 4	353,000	16 10 4
264,000	13 9 3	309,000	15 1 0	354,000	16 11 0
265,000	13 10 0	310,000	15 1 8	355,000	16 11 8
266,000	13 10 9	311,000	15 2 4	356,000	16 12 4
267,000	13 11 6	312,000	15 3 0	357,000	16 13 0
268,000	13 12 3	313,000	15 3 8	358,000	16 13 8
269,000	13 13 0	314,000	15 4 4	359,000	16 14 4
270,000	13 13 9	315,000	15 5 0	360,000	16 15 0
271,000	13 14 6	316,000	15 5 8	361,000	16 15 8
272,000	13 15 3	317,000	15 6 4	362,000	16 16 4
273,000	13 16 0	318,000	15 7 0	363,000	16 17 0
274,000	13 16 9	319,000	15 7 8	364,000	16 17 8
275,000	13 17 6	320,000	15 8 4	365,000	16 18 4
276,000	13 18 3	321,000	15 9 0	366,000	16 19 0
277,000	13 19 0	322,000	15 9 8	367,000	16 19 8
278,000	13 19 9	323,000	15 10 4	368,000	17 0 4
279,000	14 0 6	324,000	15 11 0	369,000	17 1 0
280,000	14 1 3	325,000	15 11 8	370,000	17 1 8
281,000	14 2 0	326,000	15 12 4	371,000	17 2 4
282,000	14 2 9	327,000	15 13 0	372,000	17 3 0
283,000	14 3 6	328,000	15 13 8	373,000	17 3 8
284,000	14 4 3	329,000	15 14 4	374,000	17 4 4
285,000	14 5 0	330,000	15 15 0	375,000	17 5 0
286,000	14 5 8	331,000	15 15 8	376,000	17 5 7½
287,000	14 6 4	332,000	15 16 4	377,000	17 6 3
288,000	14 7 0	333,000	15 17 0	378,000	17 6 10½
289,000	14 7 8	334,000	15 17 8	379,000	17 7 6
290,000	14 8 4	335,000	15 18 4	380,000	17 8 1½
291,000	14 9 0	336,000	15 19 0	381,000	17 8 9

Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
382,000	17 9 4½	427,000	18 16 7	472,000	20 1 11
383,000	17 10 0	428,000	18 17 2	473,000	20 2 5½
384,000	17 10 7½	429,000	18 17 9	474,000	20 3 0
385,000	17 11 3	430,000	18 18 4	475,000	20 3 6½
386,000	17 11 10½	431,000	18 18 11	476,000	20 4 1
387,000	17 12 6	432,000	18 19 6	477,000	20 4 7½
388,000	17 13 1½	433,000	19 0 1	478,000	20 5 2
389,000	17 13 9	434,000	19 0 8	479,000	20 5 8½
390,000	17 14 4½	435,000	19 1 3	480,000	20 6 3
391,000	17 15 0	436,000	19 1 10	481,000	20 6 9½
392,000	17 15 7½	437,000	19 2 5	482,000	20 7 4
393,000	17 16 3	438,000	19 3 0	483,000	20 7 10½
394,000	17 16 10½	439,000	19 3 7	484,000	20 8 5
395,000	17 17 6	440,000	19 4 2	485,000	20 8 11½
396,000	17 18 1½	441,000	19 4 9	486,000	20 9 6
397,000	17 18 9	442,000	19 5 4	487,000	20 10 0½
398,000	17 19 4½	443,000	19 5 11	488,000	20 10 7
399,000	18 0 0	444,000	19 6 6	489,000	20 11 1½
400,000	18 0 7½	445,000	19 7 1	490,000	20 11 8
401,000	18 1 3	446,000	19 7 8	491,000	20 12 2½
402,000	18 1 10½	447,000	19 8 3	492,000	20 12 9
403,000	18 2 6	448,000	19 8 10	493,000	20 13 3½
404,000	18 3 1½	449,000	19 9 5	494,000	20 13 10
405,000	18 3 9	450,000	19 10 0	495,000	20 14 4½
406,000	18 4 4	451,000	19 10 6½	496,000	20 14 11
407,000	18 4 11	452,000	19 11 1	497,000	20 15 5½
408,000	18 5 6	453,000	19 11 7½	498,000	20 16 0
409,000	18 6 1	454,000	19 12 2	499,000	20 16 6½
410,000	18 6 8	455,000	19 12 8½	500,000	20 17 1
411,000	18 7 3	456,000	19 13 3	501,000	20 17 7½
412,000	18 7 10	457,000	19 13 9½	502,000	20 18 2
413,000	18 8 5	458,000	19 14 4	503,000	20 18 8½
414,000	18 9 0	459,000	19 14 10½	504,000	20 19 3
415,000	18 9 7	460,000	19 15 5	505,000	20 19 9½
416,000	18 10 2	461,000	19 15 11½	506,000	21 0 4
417,000	18 10 9	462,000	19 16 6	507,000	21 0 10½
418,000	18 11 4	463,000	19 17 0½	508,000	21 1 5
419,000	18 11 11	464,000	19 17 7	509,000	21 1 11½
420,000	18 12 6	465,000	19 18 1½	510,000	21 2 6
421,000	18 13 1	466,000	19 18 8	511,000	21 3 0
422,000	18 13 8	467,000	19 19 2½	512,000	21 3 6
423,000	18 14 3	468,000	19 19 9	513,000	21 4 0
424,000	18 14 10	469,000	20 0 3½	514,000	21 4 6
425,000	18 15 5	470,000	20 0 10	515,000	21 5 0
426,000	18 16 0	471,000	20 1 4½	516,000	21 5 6

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
517,000	21	6	0	562,000	22	7	7	607,000	23	7	11
518,000	21	6	6	563,000	22	8	0½	608,000	23	8	4
519,000	21	7	0	564,000	22	8	6	609,000	23	8	9
520,000	21	7	6	565,000	22	8	11½	610,000	23	9	2
521,000	21	8	0	566,000	22	9	5	611,000	23	9	7
522,000	21	8	6	567,000	22	9	10½	612,000	23	10	0
523,000	21	9	0	568,000	22	10	4	613,000	23	10	5
524,000	21	9	6	569,000	22	10	9½	614,000	23	10	10
525,000	21	10	0	570,000	22	11	3	615,000	23	11	3
526,000	21	10	6	571,000	22	11	8½	616,000	23	11	8
527,000	21	11	0	572,000	22	12	2	617,000	23	12	1
528,000	21	11	6	573,000	22	12	7½	618,000	23	12	6
529,000	21	12	0	574,000	22	13	1	619,000	23	12	11
530,000	21	12	6	575,000	22	13	6½	620,000	23	13	4
531,000	21	13	0	576,000	22	14	0	621,000	23	13	9
532,000	21	13	6	577,000	22	14	5½	622,000	23	14	2
533,000	21	14	0	578,000	22	14	11	623,000	23	14	7
534,000	21	14	6	579,000	22	15	4½	624,000	23	15	0
535,000	21	15	0	580,000	22	15	10	625,000	23	15	5
536,000	21	15	6	581,000	22	16	3½	626,000	23	15	10
537,000	21	16	0	582,000	22	16	9	627,000	23	16	3
538,000	21	16	6	583,000	22	17	2½	628,000	23	16	8
539,000	21	17	0	584,000	22	17	8	629,000	23	17	1
540,000	21	17	6	585,000	22	18	1½	630,000	23	17	6
541,000	21	17	11½	586,000	22	18	7	631,000	23	17	11
542,000	21	18	5	587,000	22	19	0½	632,000	23	18	4
543,000	21	18	10½	588,000	22	19	6	633,000	23	18	9
544,000	21	19	4	589,000	22	19	11½	634,000	23	19	2
545,000	21	19	9½	590,000	23	0	5	635,000	23	19	7
546,000	22	0	3	591,000	23	0	10½	636,000	24	0	0
547,000	22	0	8½	592,000	23	1	4	637,000	24	0	5
548,000	22	1	2	593,000	23	1	9½	638,000	24	0	10
549,000	22	1	7½	594,000	23	2	3	639,000	24	1	3
550,000	22	2	1	595,000	23	2	8½	640,000	24	1	8
551,000	22	2	6½	596,000	23	3	2	641,000	24	2	1
552,000	22	3	0	597,000	23	3	7½	642,000	24	2	6
553,000	22	3	5½	598,000	23	4	1	643,000	24	2	11
554,000	22	3	11	599,000	23	4	6½	644,000	24	3	4
555,000	22	4	4½	600,000	23	5	0	645,000	24	3	9
556,000	22	4	10	601,000	23	5	5	646,000	24	4	2
557,000	22	5	3½	602,000	23	5	10	647,000	24	4	7
558,000	22	5	9	603,000	23	6	3	648,000	24	5	0
559,000	22	6	2½	604,000	23	6	8	649,000	24	5	5
560,000	22	6	8	605,000	23	7	1	650,000	24	5	10
561,000	22	7	1½	606,000	23	7	6	651 000	24	6	3

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s	d.
652,000	24	6	8	697,000	25	4	11¼	742,000	26	2	9½
653,000	24	7	1	698,000	25	5	4¾	743,000	26	3	2
654,000	24	7	6	699,000	25	5	9	744,000	26	3	6½
655,000	24	7	11	700,000	25	6	1½	745,000	26	3	11½
656,000	24	8	4	701,000	25	6	6¼	746,000	26	4	4½
657,000	24	8	9	702,000	25	6	11¾	747,000	26	4	9
658,000	24	9	2	703,000	25	7	4	748,000	26	5	1¾
659,000	24	9	7	704,000	25	7	8¾	749,000	26	5	6¼
660,000	24	10	0	705,000	25	8	1¼	750,000	26	5	11¼
661,000	24	10	5	706,000	25	8	6¼	751,000	26	6	4
662,000	24	10	10	707,000	25	8	11	752,000	26	6	8½
663,000	24	11	3	708,000	25	9	3½	753,000	26	7	1
664,000	24	11	8	709,000	25	9	8½	754,000	26	7	5½
665,000	24	12	1	710,000	25	10	1¾	755,000	26	7	10
666,000	24	12	6	711,000	25	10	6	756,000	26	8	2½
667,000	24	12	11	712,000	25	10	10¾	757,000	26	8	7
668,000	24	13	4	713,000	25	11	3½	758,000	26	8	11½
669,000	24	13	9	714,000	25	11	8½	759,000	26	9	4
670,000	24	14	2	715,000	25	12	1	760,000	26	9	8½
671,000	24	14	7	716,000	25	12	5¾	761,000	26	10	1
672,000	24	15	0	717,000	25	12	10¼	762,000	26	10	5½
673,000	24	15	5	718,000	25	13	3½	763,000	26	10	10
674,000	24	15	10	719,000	25	13	8	764,000	26	11	2½
675,000	24	16	3	720,000	25	14	0¾	765,000	26	11	7
676,000	24	16	7¾	721,000	25	14	5¼	766,000	26	11	11½
677,000	24	17	0½	722,000	25	14	10¼	767,000	26	12	4
678,000	24	17	5¼	723,000	25	15	3	768,000	26	12	8½
679,000	24	17	10	724,000	25	15	7¾	769,000	26	13	1
680,000	24	18	2¾	725,000	25	16	0½	770,000	26	13	5½
681,000	24	18	7½	726,000	25	16	5¼	771,000	26	13	10
682,000	24	19	0¼	727,000	25	16	10	772,000	26	14	2½
683,000	24	19	5	728,000	25	17	2¾	773,000	26	14	7
684,000	24	19	9¾	729,000	25	17	7¼	774,000	26	14	11½
685,000	25	0	2½	730,000	25	18	0¾	775,000	26	15	4
686,000	25	0	7¼	731,000	25	18	5	776,000	26	15	8½
687,000	25	1	0	732,000	25	18	9¾	777,000	26	16	1
688,000	25	1	4¾	733,000	25	19	2¼	778,000	26	16	5½
689,000	25	1	9½	734,000	25	19	7¾	779,000	26	16	10
690,000	25	2	2¼	735,000	26	0	0	780,000	26	17	2½
691,000	25	2	7	736,000	26	0	4¾	781,000	26	17	7
692,000	25	2	11¾	737,000	26	0	9¼	782,000	26	17	11½
693,000	25	3	4½	738,000	26	1	2¾	783,000	26	18	4
694,000	25	3	9¼	739,000	26	1	7	784,000	26	18	8½
695,000	25	4	2	740,000	26	1	11¾	785,000	26	19	1
696,000	25	4	6¾	741,000	26	2	4¾	786,000	26	19	5½

Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
787,000	26 19 10	832,000	27 16 8½	877,000	28 13 7
788,000	27 0 2½	833,000	27 17 1	878,000	28 13 11½
789,000	27 0 7	834,000	27 17 5½	879,000	28 14 4
790,000	27 0 11½	835,000	27 17 10	880,000	28 14 8½
791,000	27 1 4	836,000	27 18 2½	881,000	28 15 1
792,000	27 1 8½	837,000	27 18 7	882,000	28 15 5½
793,000	27 2 1	838,000	27 18 11½	883,000	28 15 10
794,000	27 2 5½	839,000	27 19 4	884,000	28 16 2½
795,000	27 2 10	840,000	27 19 8½	885,000	28 16 7
796,000	27 3 2½	841,000	28 0 1	886,000	28 16 11½
797,000	27 3 7	842,000	28 0 5½	887,000	28 17 4
798,000	27 3 11½	843,000	28 0 10	888,000	28 17 8½
799,000	27 4 4	844,000	28 1 2½	889,000	28 18 1
800,000	27 4 8½	845,000	28 1 7	890,000	28 18 5½
801,000	27 5 1	846,000	28 1 11½	891,000	28 18 10
802,000	27 5 5½	847,000	28 2 4	892,000	28 19 2½
803,000	27 5 10	848,000	28 2 8½	893,000	28 19 7
804,000	27 6 2½	849,000	28 3 1	894,000	28 19 11½
805,000	27 6 7	850,000	28 3 5½	895,000	29 0 4
806,000	27 6 11½	851,000	28 3 10	896,000	29 0 8½
807,000	27 7 4	852,000	28 4 2½	897,000	29 1 1
808,000	27 7 8½	853,000	28 4 7	898,000	29 1 5½
809,000	27 8 1	854,000	28 4 11½	899,000	29 1 10
810,000	27 8 5½	855,000	28 5 4	900,000	29 2 2½
811,000	27 8 10	856,000	28 5 8½	901,000	29 2 7
812,000	27 9 2½	857,000	28 6 1	902,000	29 2 11½
813,000	27 9 7	858,000	28 6 5½	903,000	29 3 4
814,000	27 9 11½	859,000	28 6 10	904,000	29 3 8½
815,000	27 10 4	860,000	28 7 2½	905,000	29 4 1
816,000	27 10 8½	861,000	28 7 7	906,000	29 4 5½
817,000	27 11 1	862,000	28 7 11½	907,000	29 4 10
818,000	27 11 5½	863,000	28 8 4	908,000	29 5 2½
819,000	27 11 10	864,000	28 8 8½	909,000	29 5 7
820,000	27 12 2½	865,000	28 9 1	910,000	29 5 11½
821,000	27 12 7	866,000	28 9 5½	911,000	29 6 4
822,000	27 12 11½	867,000	28 9 10	912,000	29 6 8½
823,000	27 13 4	868,000	28 10 2½	913,000	29 7 1
824,000	27 13 8½	869,000	28 10 7	914,000	29 7 5½
825,000	27 14 1	870,000	28 10 11½	915,000	29 7 10
826,000	27 14 5½	871,000	28 11 4	916,000	29 8 2½
827,000	27 14 10	872,000	28 11 8½	917,000	29 8 7
828,000	27 15 2½	873,000	28 12 1	918,000	29 8 11½
829,000	27 15 7	874,000	28 12 5½	919,000	29 9 4
830,000	27 15 11½	875,000	28 12 10	920,000	29 9 8½
831,000	27 16 4	876,000	28 13 2½	921,000	29 10 1

Quantity of Water in Gallons	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
922,000	29 10 5½	967,000	30 7 4	1,012,000	31 4 2½
923,000	29 10 10	968,000	30 7 8½	1,013,000	31 4 7
924,000	29 11 2½	969,000	30 8 1	1,014,000	31 4 11½
925,000	29 11 7	970,000	30 8 5½	1,015,000	31 5 4
926,000	29 11 11½	971,000	30 8 10	1,016,000	31 5 8½
927,000	29 12 4	972,000	30 9 2½	1,017,000	31 6 1
928,000	29 12 8½	973,000	30 9 7	1,018,000	31 6 5½
929,000	29 13 1	974,000	30 9 11½	1,019,000	31 6 10
930,000	29 13 5½	975,000	30 10 4	1,020,000	31 7 2½
931,000	29 13 10	976,000	30 10 8½	1,021,000	31 7 7
932,000	29 14 2½	977,000	30 11 1	1,022,000	31 7 11½
933,000	29 14 7	978,000	30 11 5½	1,023,000	31 8 4
934,000	29 14 11½	979,000	30 11 10	1,024,000	31 8 8½
935,000	29 15 4	980,000	30 12 2½	1,025,000	31 9 1
936,000	29 15 8½	981,000	30 12 7	1,026,000	31 9 5½
937,000	29 16 1	982,000	30 12 11½	1,027,000	31 9 10
938,000	29 16 5½	983,000	30 13 4	1,028,000	31 10 2½
939,000	29 16 10	984,000	30 13 8½	1,029,000	31 10 7
940,000	29 17 2½	985,000	30 14 1	1,030,000	31 10 11½
941,000	29 17 7	986,000	30 14 5½	1,031,000	31 11 4
942,000	29 17 11½	987,000	30 14 10	1,032,000	31 11 8½
943,000	29 18 4	988,000	30 15 2½	1,033,000	31 12 1
944,000	29 18 8½	989,000	30 15 7	1,034,000	31 12 5½
945,000	29 19 1	990,000	30 15 11½	1,035,000	31 12 10
946,000	29 19 5½	991,000	30 16 4	1,036,000	31 13 2½
947,000	29 19 10	992,000	30 16 8½	1,037,000	31 13 7
948,000	30 0 2½	993,000	30 17 1	1,038,000	31 13 11½
949,000	30 0 7	994,000	30 17 5½	1,039,000	31 14 4
950,000	30 0 11½	995,000	30 17 10	1,040,000	31 14 8½
951,000	30 1 4	996,000	30 18 2½	1,041,000	31 15 1
952,000	30 1 8½	997,000	30 18 7	1,042,000	31 15 5½
953,000	30 2 1	998,000	30 18 11½	1,043,000	31 15 10
954,000	30 2 5½	999,000	30 19 4	1,044,000	31 16 2½
955,000	30 2 10	1,000,000	30 19 8½	1,045,000	31 16 7
956,000	30 3 2½	1,001,000	31 0 1	1,046,000	31 16 11½
957,000	30 3 7	1,002,000	31 0 5½	1,047,000	31 17 4
958,000	30 3 11½	1,003,000	31 0 10	1,048,000	31 17 8½
959,000	30 4 4	1,004,000	31 1 2½	1,049,000	31 18 1
960,000	30 4 8½	1,005,000	31 1 7	1,050,000	31 18 5½
961,000	30 5 1	1,006,000	31 1 11½	1,051,000	31 18 10
962,000	30 5 5½	1,007,000	31 2 4	1,052,000	31 19 2½
963,000	30 5 10	1,008,000	31 2 8½	1,053,000	31 19 7
964,000	30 6 2½	1,009,000	31 3 1	1,054,000	31 19 11½
965,000	30 6 7	1,010,000	31 3 5½	1,055,000	32 0 4
966,000	30 6 11½	1,011,000	31 3 10	1,056,000	32 0 8½

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
1,192,000	34	9	0	1,237,000	35	4	0	1,282,000	35	19	0
1,193,000	34	9	4	1,238,000	35	4	4	1,283,000	35	19	4
1,194,000	34	9	8	1,239,000	35	4	8	1,284,000	35	19	8
1,195,000	34	10	0	1,240,000	35	5	0	1,285,000	36	0	0
1,196,000	34	10	4	1,241,000	35	5	4	1,286,000	36	0	4
1,197,000	34	10	8	1,242,000	35	5	8	1,287,000	36	0	8
1,198,000	34	11	0	1,243,000	35	6	0	1,288,000	36	1	0
1,199,000	34	11	4	1,244,000	35	6	4	1,289,000	36	1	4
1,200,000	34	11	8	1,245,000	35	6	8	1,290,000	36	1	8
1,201,000	34	12	0	1,246,000	35	7	0	1,291,000	36	2	0
1,202,000	34	12	4	1,247,000	35	7	4	1,292,000	36	2	4
1,203,000	34	12	8	1,248,000	35	7	8	1,293,000	36	2	8
1,204,000	34	13	0	1,249,000	35	8	0	1,294,000	36	3	0
1,205,000	34	13	4	1,250,000	35	8	4	1,295,000	36	3	4
1,206,000	34	13	8	1,251,000	35	8	8	1,296,000	36	3	8
1,207,000	34	14	0	1,252,000	35	9	0	1,297,000	36	4	0
1,208,000	34	14	4	1,253,000	35	9	4	1,298,000	36	4	4
1,209,000	34	14	8	1,254,000	35	9	8	1,299,000	36	4	8
1,210,000	34	15	0	1,255,000	35	10	0	1,300,000	36	5	0
1,211,000	34	15	4	1,256,000	35	10	4	1,301,000	36	5	4
1,212,000	34	15	8	1,257,000	35	10	8	1,302,000	36	5	8
1,213,000	34	16	0	1,258,000	35	11	0	1,303,000	36	6	0
1,214,000	34	16	4	1,259,000	35	11	4	1,304,000	36	6	4
1,215,000	34	16	8	1,260,000	35	11	8	1,305,000	36	6	8
1,216,000	34	17	0	1,261,000	35	12	0	1,306,000	36	7	0
1,217,000	34	17	4	1,262,000	35	12	4	1,307,000	36	7	4
1,218,000	34	17	8	1,263,000	35	12	8	1,308,000	36	7	8
1,219,000	34	18	0	1,264,000	35	13	0	1,309,000	36	8	0
1,220,000	34	18	4	1,265,000	35	13	4	1,310,000	36	8	4
1,221,000	34	18	8	1,266,000	35	13	8	1,311,000	36	8	8
1,222,000	34	19	0	1,267,000	35	14	0	1,312,000	36	9	0
1,223,000	34	19	4	1,268,000	35	14	4	1,313,000	36	9	4
1,224,000	34	19	8	1,269,000	35	14	8	1,314,000	36	9	8
1,225,000	35	0	0	1,270,000	35	15	0	1,315,000	36	10	0
1,226,000	35	0	4	1,271,000	35	15	4	1,316,000	36	10	4
1,227,000	35	0	8	1,272,000	35	15	8	1,317,000	36	10	8
1,228,000	35	1	0	1,273,000	35	16	0	1,318,000	36	11	0
1,229,000	35	1	4	1,274,000	35	16	4	1,319,000	36	11	4
1,230,000	35	1	8	1,275,000	35	16	8	1,320,000	36	11	8
1,231,000	35	2	0	1,276,000	35	17	0	1,321,000	36	12	0
1,232,000	35	2	4	1,277,000	35	17	4	1,322,000	36	12	4
1,233,000	35	2	8	1,278,000	35	17	8	1,323,000	36	12	8
1,234,000	35	3	0	1,279,000	35	18	0	1,324,000	36	13	0
1,235,000	35	3	4	1,280,000	35	18	4	1,325,000	36	13	4
1,236,000	35	3	8	1,281,000	35	18	8	1,326,000	36	13	8

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
1,327,000	36	14	0	1,372,000	37	9	0	1,417,000	38	4	0
1,328,000	36	14	4	1,373,000	37	9	4	1,418,000	38	4	4
1,329,000	36	14	8	1,374,000	37	9	8	1,419,000	38	4	8
1,330,000	36	15	0	1,375,000	37	10	0	1,420,000	38	5	0
1,331,000	36	15	4	1,376,000	37	10	4	1,421,000	38	5	4
1,332,000	36	15	8	1,377,000	37	10	8	1,422,000	38	5	8
1,333,000	36	16	0	1,378,000	37	11	0	1,423,000	38	6	0
1,334,000	36	16	4	1,379,000	37	11	4	1,424,000	38	6	4
1,335,000	36	16	8	1,380,000	37	11	8	1,425,000	38	6	8
1,336,000	36	17	0	1,381,000	37	12	0	1,426,000	38	7	0
1,337,000	36	17	4	1,382,000	37	12	4	1,427,000	38	7	4
1,338,000	36	17	8	1,383,000	37	12	8	1,428,000	38	7	8
1,339,000	36	18	0	1,384,000	37	13	0	1,429,000	38	8	0
1,340,000	36	18	4	1,385,000	37	13	4	1,430,000	38	8	4
1,341,000	36	18	8	1,386,000	37	13	8	1,431,000	38	8	8
1,342,000	36	19	0	1,387,000	37	14	0	1,432,000	38	9	0
1,343,000	36	19	4	1,388,000	37	14	4	1,433,000	38	9	4
1,344,000	36	19	8	1,389,000	37	14	8	1,434,000	38	9	8
1,345,000	37	0	0	1,390,000	37	15	0	1,435,000	38	10	0
1,346,000	37	0	4	1,391,000	37	15	4	1,436,000	38	10	4
1,347,000	37	0	8	1,392,000	37	15	8	1,437,000	38	10	8
1,348,000	37	1	0	1,393,000	37	16	0	1,438,000	38	11	0
1,349,000	37	1	4	1,394,000	37	16	4	1,439,000	38	11	4
1,350,000	37	1	8	1,395,000	37	16	8	1,440,000	38	11	8
1,351,000	37	2	0	1,396,000	37	17	0	1,441,000	38	12	0
1,352,000	37	2	4	1,397,000	37	17	4	1,442,000	38	12	4
1,353,000	37	2	8	1,398,000	37	17	8	1,443,000	38	12	8
1,354,000	37	3	0	1,399,000	37	18	0	1,444,000	38	13	0
1,355,000	37	3	4	1,400,000	37	18	4	1,445,000	38	13	4
1,356,000	37	3	8	1,401,000	37	18	8	1,446,000	38	13	8
1,357,000	37	4	0	1,402,000	37	19	0	1,447,000	38	14	0
1,358,000	37	4	4	1,403,000	37	19	4	1,448,000	38	14	4
1,359,000	37	4	8	1,404,000	37	19	8	1,449,000	38	14	8
1,360,000	37	5	0	1,405,000	38	0	0	1,450,000	38	15	0
1,361,000	37	5	4	1,406,000	38	0	4	1,451,000	38	15	4
1,362,000	37	5	8	1,407,000	38	0	8	1,452,000	38	15	8
1,363,000	37	6	0	1,408,000	38	1	0	1,453,000	38	16	0
1,364,000	37	6	4	1,409,000	38	1	4	1,454,000	38	16	4
1,365,000	37	6	8	1,410,000	38	1	8	1,455,000	38	16	8
1,366,000	37	7	0	1,411,000	38	2	0	1,456,000	38	17	0
1,367,000	37	7	4	1,412,000	38	2	4	1,457,000	38	17	4
1,368,000	37	7	8	1,413,000	38	2	8	1,458,000	38	17	8
1,369,000	37	8	0	1,414,000	38	3	0	1,459,000	38	18	0
1,370,000	37	8	4	1,415,000	38	3	4	1,460,000	38	18	4
1,371,000	37	8	8	1,416,000	38	3	8	1,461,000	38	18	8

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
1,462,000	38	19	0
1,463,000	38	19	4
1,464,000	38	19	8
1,465,000	39	0	0
1,466,000	39	0	4
1,467,000	39	0	8
1,468,000	39	1	0
1,469,000	39	1	4
1,470,000	39	1	8
1,471,000	39	2	0
1,472,000	39	2	4
1,473,000	39	2	8
1,474,000	39	3	0
1,475,000	39	3	4
1,476,000	39	3	8
1,477,000	39	4	0
1,478,000	39	4	4
1,479,000	39	4	8
1,480,000	39	5	0
1,481,000	39	5	4
1,482,000	39	5	8
1,483,000	39	6	0
1,484,000	39	6	4
1,485,000	39	6	8
1,486,000	39	7	0
1,487,000	39	7	4
1,488,000	39	7	8
1,489,000	39	8	0
1,490,000	39	8	4
1,491,000	39	8	8
1,492,000	39	9	0
1,493,000	39	9	4
1,494,000	39	9	8
1,495,000	39	10	0
1,496,000	39	10	4
1,497,000	39	10	8
1,498,000	39	11	0
1,499,000	39	11	4
1,500,000	39	11	8
1,501,000	39	11	11¾
1,502,000	39	12	3¼
1,503,000	39	12	7¼
1,504,000	39	12	11
1,505,000	39	13	2¾
1,506,000	39	13	6¾
1,507,000	39	13	10¾
1,508,000	39	14	2
1,509,000	39	14	5¾
1,510,000	39	14	9¾
1,511,000	39	15	1¾
1,512,000	39	15	5
1,513,000	39	15	8¾
1,514,000	39	16	0¾
1,515,000	39	16	4¾
1,516,000	39	16	8
1,517,000	39	16	11¾
1,518,000	39	17	3¾
1,519,000	39	17	7¾
1,520,000	39	17	11
1,521,000	39	18	2¾
1,522,000	39	18	6¾
1,523,000	39	18	10¾
1,524,000	39	19	2
1,525,000	39	19	5¾
1,526,000	39	19	9¾
1,527,000	40	0	1¾
1,528,000	40	0	5
1,529,000	40	0	8¾
1,530,000	40	1	0¾
1,531,000	40	1	4¾
1,532,000	40	1	8
1,533,000	40	1	11¾
1,534,000	40	2	3¾
1,535,000	40	2	7¾
1,536,000	40	2	11
1,537,000	40	3	2¾
1,538,000	40	3	6¾
1,539,000	40	3	10¾
1,540,000	40	4	2
1,541,000	40	4	5¾
1,542,000	40	4	9¾
1,543,000	40	5	1¾
1,544,000	40	5	5
1,545,000	40	5	8¾
1,546,000	40	6	0¾
1,547,000	40	6	4¾
1,548,000	40	6	8
1,549,000	40	6	11¾
1,550,000	40	7	3¾
1,551,000	40	7	7¾
1,552,000	40	7	11
1,553,000	40	8	2¾
1,554,000	40	8	6¾
1,555,000	40	8	10¾
1,556,000	40	9	2
1,557,000	40	9	5¾
1,558,000	40	9	9¾
1,559,000	40	10	1¾
1,560,000	40	10	5
1,561,000	40	10	8¾
1,562,000	40	11	0¾
1,563,000	40	11	4¾
1,564,000	40	11	8
1,565,000	40	11	11¾
1,566,000	40	12	3¾
1,567,000	40	12	7¾
1,568,000	40	12	11
1,569,000	40	13	2¾
1,570,000	40	13	6¾
1,571,000	40	13	10¾
1,572,000	40	14	2
1,573,000	40	14	5¾
1,574,000	40	14	9¾
1,575,000	40	15	1¾
1,576,000	40	15	5
1,577,000	40	15	8¾
1,578,000	40	16	0¾
1,579,000	40	16	4¾
1,580,000	40	16	8
1,581,000	40	16	11¾
1,582,000	40	17	3¾
1,583,000	40	17	7¾
1,584,000	40	17	11
1,585,000	40	18	2¾
1,586,000	40	18	6¾
1,587,000	40	18	10¾
1,588,000	40	19	2
1,589,000	40	19	5¾
1,590,000	40	19	9¾
1,591,000	41	0	1¾
1,592,000	41	0	5
1,593,000	41	0	8¾
1,594,000	41	1	0¾
1,595,000	41	1	4¾
1,596,000	41	1	8
1,732,000	43	4	2
1,733,000	43	4	5¾
1,734,000	43	4	9¾
1,735,000	43	5	1¾
1,736,000	43	5	5
1,737,000	43	5	8¾
1,738,000	43	6	0¾
1,739,000	43	6	4¾
1,740,000	43	6	8
1,741,000	43	6	11¾
1,742,000	43	7	3¾
1,743,000	43	7	7¾
1,744,000	43	7	11
1,745,000	43	8	2¾
1,746,000	43	8	6¾
1,747,000	43	8	10¾
1,748,000	43	9	2
1,749,000	43	9	5¾
1,750,000	43	9	9¾
1,751,000	43	10	1¾
1,752,000	43	10	5
1,753,000	43	10	8¾
1,754,000	43	11	0¾
1,755,000	43	11	4¾
1,756,000	43	11	8
1,757,000	43	11	11¾
1,758,000	43	12	3¾
1,759,000	43	12	7¾
1,760,000	43	12	11
1,761,000	43	13	2¾
1,762,000	43	13	6¾
1,763,000	43	13	10¾
1,764,000	43	14	2
1,765,000	43	14	5¾
1,766,000	43	14	9¾
1,767,000	43	15	1¾
1,768,000	43	15	5
1,769,000	43	15	8¾
1,770,000	43	16	0¾
1,771,000	43	16	4¾
1,772,000	43	16	8
1,773,000	43	16	11¾
1,774,000	43	17	3¾
1,775,000	43	17	7¾
1,776,000	43	17	11
1,777,000	43	18	2¾
1,778,000	43	18	6¾
1,779,000	43	18	10¾
1,780,000	43	19	2
1,781,000	43	19	5¾
1,782,000	43	19	9¾
1,783,000	44	0	1¾
1,784,000	44	0	5
1,785,000	44	0	8¾
1,786,000	44	1	0¾
1,787,000	44	1	4¾
1,788,000	44	1	8
1,789,000	44	1	11¾
1,790,000	44	2	3¾
1,791,000	44	2	7¾
1,792,000	44	2	11
1,793,000	44	3	2¾
1,794,000	44	3	6¾
1,795,000	44	3	10¾
1,796,000	44	4	2
1,797,000	44	4	5¾
1,798,000	44	4	9¾
1,799,000	44	5	1¾
1,800,000	44	5	5
1,801,000	44	5	8¾
1,802,000	44	6	0¾
1,803,000	44	6	4¾
1,804,000	44	6	8
1,805,000	44	6	11¾
1,806,000	44	7	3¾
1,807,000	44	7	7¾
1,808,000	44	7	11
1,809,000	44	8	2¾
1,810,000	44	8	6¾
1,811,000	44	8	10¾
1,812,000	44	9	2
1,813,000	44	9	5¾
1,814,000	44	9	9¾
1,815,000	44	10	1¾
1,816,000	44	10	5
1,817,000	44	10	8¾
1,818,000	44	11	0¾
1,819,000	44	11	4¾
1,820,000	44	11	8
1,821,000	44	11	11¾
1,822,000	44	12	3¾
1,823,000	44	12	7¾
1,824,000	44	12	11
1,825,000	44	13	2¾
1,826,000	44	13	6¾
1,827,000	44	13	10¾
1,828,000	44	14	2
1,829,000	44	14	5¾
1,830,000	44	14	9¾
1,831,000	44	15	1¾
1,832,000	44	15	5
1,833,000	44	15	8¾
1,834,000	44	16	0¾
1,835,000	44	16	4¾
1,836,000	44	16	8
1,837,000	44	16	11¾
1,838,000	44	17	3¾
1,839,000	44	17	7¾
1,840,000	44	17	11
1,841,000	44	18	2¾
1,842,000	44	18	6¾
1,843,000	44	18	10¾
1,844,000	44	19	2
1,845,000	44	19	5¾
1,846,000	44	19	9¾
1,847,000	45	0	1¾
1,848,000	45	0	5
1,849,000	45	0	8¾
1,850,000	45	1	0¾
1,851,000	45	1	4¾
1,852,000	45	1	8
1,853,000	45	1	11¾
1,854,000	45	2	3¾
1,855,000	45	2	7¾
1,856,000	45	2	11
1,857,000	45	3	2¾
1,858,000	45	3	6¾
1,859,000	45	3	10¾
1,860,000	45	4	2
1,861,000	45	4	5¾
1,862,000	45	4	9¾
1,863,000	45	5	1¾
1,864,000	45	5	5
1,865,000	45	5	8¾
1,866,000	45	6	0¾

Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
1,867,000	45 6 4½	1,912,000	45 19 7½	1,957,000	46 12 9
1,868,000	45 6 8	1,913,000	45 19 11	1,958,000	46 13 0½
1,869,000	45 6 11½	1,914,000	46 0 2½	1,959,000	46 13 4
1,870,000	45 7 3½	1,915,000	46 0 6	1,960,000	46 13 7½
1,871,000	45 7 7½	1,916,000	46 0 9½	1,961,000	46 13 11
1,872,000	45 7 11	1,917,000	46 1 1	1,962,000	46 14 2½
1,873,000	45 8 2½	1,918,000	46 1 4½	1,963,000	46 14 6
1,874,000	45 8 6½	1,919,000	46 1 8	1,964,000	46 14 9½
1,875,000	45 8 10	1,920,000	46 1 11½	1,965,000	46 15 1
1,876,000	45 9 1½	1,921,000	46 2 3	1,966,000	46 15 4½
1,877,000	45 9 5	1,922,000	46 2 6½	1,967,000	46 15 8
1,878,000	45 9 8½	1,923,000	46 2 10	1,968,000	46 15 11½
1,879,000	45 10 0	1,924,000	46 3 1½	1,969,000	46 16 3
1,880,000	45 10 3½	1,925,000	46 3 5	1,970,000	46 16 6½
1,881,000	45 10 7	1,926,000	46 3 8½	1,971,000	46 16 10
1,882,000	45 10 10½	1,927,000	46 4 0	1,972,000	46 17 1½
1,883,000	45 11 2	1,928,000	46 4 3½	1,973,000	46 17 5
1,884,000	45 11 5½	1,929,000	46 4 7	1,974,000	46 17 8½
1,885,000	45 11 9	1,930,000	46 4 10½	1,975,000	46 18 0
1,886,000	45 12 0½	1,931,000	46 5 2	1,976,000	46 18 3½
1,887,000	45 12 4	1,932,000	46 5 5½	1,977,000	46 18 7
1,888,000	45 12 7½	1,933,000	46 5 9	1,978,000	46 18 10½
1,889,000	45 12 11	1,934,000	46 6 0½	1,979,000	46 19 2
1,890,000	45 13 2½	1,935,000	46 6 4	1,980,000	46 19 5½
1,891,000	45 13 6	1,936,000	46 6 7½	1,981,000	46 19 9
1,892,000	45 13 9½	1,937,000	46 6 11	1,982,000	47 0 0½
1,893,000	45 14 1	1,938,000	46 7 2½	1,983,000	47 0 4
1,894,000	45 14 4½	1,939,000	46 7 6	1,984,000	47 0 7½
1,895,000	45 14 8	1,940,000	46 7 9½	1,985,000	47 0 11
1,896,000	45 14 11½	1,941,000	46 8 1	1,986,000	47 1 2½
1,897,000	45 15 3	1,942,000	46 8 4½	1,987,000	47 1 6
1,898,000	45 15 6½	1,943,000	46 8 8	1,988,000	47 1 9½
1,899,000	45 15 10	1,944,000	46 8 11½	1,989,000	47 2 1
1,900,000	45 16 1½	1,945,000	46 9 3	1,990,000	47 2 4½
1,901,000	45 16 5	1,946,000	46 9 6½	1,991,000	47 2 8
1,902,000	45 16 8½	1,947,000	46 9 10	1,992,000	47 2 11½
1,903,000	45 17 0	1,948,000	46 10 1½	1,993,000	47 3 3
1,904,000	45 17 3½	1,949,000	46 10 5	1,994,000	47 3 6½
1,905,000	45 17 7	1,950,000	46 10 8½	1,995,000	47 3 10
1,906,000	45 17 10½	1,951,000	46 11 0	1,996,000	47 4 1½
1,907,000	45 18 2	1,952,000	46 11 3½	1,997,000	47 4 5
1,908,000	45 18 5½	1,953,000	46 11 7	1,998,000	47 4 8½
1,909,000	45 18 9	1,954,000	46 11 10½	1,999,000	47 5 0
1,910,000	45 19 0½	1,955,000	46 12 2	2,000,000	47 5 3½
1,911,000	45 19 4	1,956,000	46 12 5½	2,001,000	47 5 7

Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.	Quantity of Water in Gallons.	Amount of Charge. £ s. d.
2,002,000	47 5 10½	2,047,000	47 19 0	2,092,000	48 12 1½
2,003,000	47 6 2	2,048,000	47 19 3½	2,093,000	48 12 5
2,004,000	47 6 5½	2,049,000	47 19 7	2,094,000	48 12 8½
2,005,000	47 6 9	2,050,000	47 19 10½	2,095,000	48 13 0
2,006,000	47 7 0½	2,051,000	48 0 2	2,096,000	48 13 3½
2,007,000	47 7 4	2,052,000	48 0 5½	2,097,000	48 13 7
2,008,000	47 7 7½	2,053,000	48 0 9	2,098,000	48 13 10½
2,009,000	47 7 11	2,054,000	48 1 0½	2,099,000	48 14 2
2,010,000	47 8 2½	2,055,000	48 1 4	2,100,000	48 14 5½
2,011,000	47 8 6	2,056,000	48 1 7½	2,101,000	48 14 9
2,012,000	47 8 9½	2,057,000	48 1 11	2,102,000	48 15 0½
2,013,000	47 9 1	2,058,000	48 2 2½	2,103,000	48 15 4
2,014,000	47 9 4½	2,059,000	48 2 6	2,104,000	48 15 7½
2,015,000	47 9 8	2,060,000	48 2 9½	2,105,000	48 15 11
2,016,000	47 9 11½	2,061,000	48 3 1	2,106,000	48 16 2½
2,017,000	47 10 3	2,062,000	48 3 4½	2,107,000	48 16 6
2,018,000	47 10 6½	2,063,000	48 3 8	2,108,000	48 16 9½
2,019,000	47 10 10	2,064,000	48 3 11½	2,109,000	48 17 1
2,020,000	47 11 1½	2,065,000	48 4 3	2,110,000	48 17 4½
2,021,000	47 11 5	2,066,000	48 4 6½	2,111,000	48 17 8
2,022,000	47 11 8½	2,067,000	48 4 10	2,112,000	48 17 11½
2,023,000	47 12 0	2,068,000	48 5 1½	2,113,000	48 18 3
2,024,000	47 12 3½	2,069,000	48 5 5	2,114,000	48 18 6½
2,025,000	47 12 7	2,070,000	48 5 8½	2,115,000	48 18 10
2,026,000	47 12 10½	2,071,000	48 6 0	2,116,000	48 19 1½
2,027,000	47 13 2	2,072,000	48 6 3½	2,117,000	48 19 5
2,028,000	47 13 5½	2,073,000	48 6 7	2,118,000	48 19 8½
2,029,000	47 13 9	2,074,000	48 6 10½	2,119,000	49 0 0
2,030,000	47 14 0½	2,075,000	48 7 2	2,120,000	49 0 3½
2,031,000	47 14 4	2,076,000	48 7 5½	2,121,000	49 0 7
2,032,000	47 14 7½	2,077,000	48 7 9	2,122,000	49 0 10½
2,033,000	47 14 11	2,078,000	48 8 0½	2,123,000	49 1 2
2,034,000	47 15 2½	2,079,000	48 8 4	2,124,000	49 1 5½
2,035,000	47 15 6	2,080,000	48 8 7½	2,125,000	49 1 9
2,036,000	47 15 9½	2,081,000	48 8 11	2,126,000	49 2 0½
2,037,000	47 16 1	2,082,000	48 9 2½	2,127,000	49 2 4
2,038,000	47 16 4½	2,083,000	48 9 6	2,128,000	49 2 7½
2,039,000	47 16 8	2,084,000	48 9 9½	2,129,000	49 2 11
2,040,000	47 16 11½	2,085,000	48 10 1	2,130,000	49 3 2½
2,041,000	47 17 3	2,086,000	48 10 4½	2,131,000	49 3 6
2,042,000	47 17 6½	2,087,000	48 10 8	2,132,000	49 3 9½
2,043,000	47 17 10	2,088,000	48 10 11½	2,133,000	49 4 1
2,044,000	47 18 1½	2,089,000	48 11 3	2,134,000	49 4 4½
2,045,000	47 18 5	2,090,000	48 11 6½	2,135,000	49 4 8
2,046,000	47 18 8½	2,091,000	48 11 10	2,136,000	49 4 11½

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
2,137 000	49	5	3
2,138,000	49	5	6½
2,139,000	49	5	10
2,140,000	49	6	1½
2,141,000	49	6	5
2,142,000	49	6	8½
2,143,000	49	7	0
2,144,000	49	7	3½
2,145,000	49	7	7
2,146,000	49	7	10½
2,147,000	49	8	2
2,148,000	49	8	5½
2,149,000	49	8	9
2,150,000	49	9	0½
2,151,000	49	9	4
2,152,000	49	9	7½
2,153,000	49	9	11
2,154,000	49	10	2½
2,155,000	49	10	6
2,156,000	49	10	9½
2,157,000	49	11	1
2,158,000	49	11	4½
2,159,000	49	11	8
2,160,000	49	11	11½
2,161,000	49	12	3
2,162,000	49	12	6½
2,163,000	49	12	10
2,164,000	49	13	1½
2,165,000	49	13	5
2,166,000	49	13	8½
2,167,000	49	14	0
2,168,000	49	14	3½
2,169,000	49	14	7
2,170,000	49	14	10½
2,171,000	49	15	2
2,172,000	49	15	5½
2,173,000	49	15	9
2,174,000	49	16	0½
2,175,000	49	16	4
2,176,000	49	16	7½
2,177,000	49	16	11
2,178,000	49	17	2½
2,179,000	49	17	6
2,180,000	49	17	9½
2,181,000	49	18	1
2,182,000	49	18	4½
2,183,000	49	18	8
2,184,000	49	18	11½
2,185,000	49	19	3
2,186,000	49	19	6½
2,187,000	49	19	10
2,188,000	50	0	1½
2,189,000	50	0	5
2,190,000	50	0	8½
2,191,000	50	1	0
2,192,000	50	1	3½
2,193,000	50	1	7
2,194,000	50	1	10½
2,195,000	50	2	2
2,196,000	50	2	5½
2,197,000	50	2	9
2,198,000	50	3	0½
2,199,000	50	3	4
2,200,000	50	3	7½
2,201,000	50	3	11
2,202,000	50	4	2½
2,203,000	50	4	6
2,204,000	50	4	9½
2,205,000	50	5	1
2,206,000	50	5	4½
2,207,000	50	5	8
2,208,000	50	5	11½
2,209,000	50	6	3
2,210,000	50	6	6½
2,211,000	50	6	10
2,212,000	50	7	1½
2,213,000	50	7	5
2,214,000	50	7	8½
2,215,000	50	8	0
2,216,000	50	8	3½
2,217,000	50	8	7
2,218,000	50	8	10½
2,219,000	50	9	2
2,220,000	50	9	5½
2,221,000	50	9	9
2,222,000	50	10	0½
2,223,000	50	10	4
2,224,000	50	10	7½
2,225,000	50	10	11
2,226,000	50	11	2½
2,227,000	50	11	6
2,228,000	50	11	9½
2,229,000	50	12	1
2,230,000	50	12	4½
2,231,000	50	12	8
2,232,000	50	12	11½
2,233,000	50	13	3
2,234,000	50	13	6½
2,235,000	50	13	10
2,236,000	50	14	1½
2,237,000	50	14	5
2,238,000	50	14	8½
2,239,000	50	15	0
2,240,000	50	15	3½
2,241,000	50	15	7
2,242,000	50	15	10½
2,243,000	50	16	2
2,244,000	50	16	5½
2,245,000	50	16	9
2,246,000	50	17	0½
2,247,000	50	17	4
2,248,000	50	17	7½
2,249,000	50	17	11
2,250,000	50	18	2½
2,251,000	50	18	5½
2,252,000	50	18	9
2,253,000	50	19	0½
2,254,000	50	19	3½
2,255,000	50	19	6½
2,256,000	50	19	10
2,257,000	51	0	1½
2,258,000	51	0	4½
2,259,000	51	0	7½
2,260,000	51	0	11
2,261,000	51	1	2½
2,262,000	51	1	5½
2,263,000	51	1	8½
2,264,000	51	2	0
2,265,000	51	2	3½
2,266,000	51	2	6½
2,267,000	51	2	9½
2,268,000	51	3	1
2,269,000	51	3	4½
2,270,000	51	3	7½
2,271,000	51	3	10½
2,272,000	51	4	2
2,273,000	51	4	5½
2,274,000	51	4	8½
2,275,000	51	4	11½
2,276,000	51	5	3
2,277,000	51	5	6½
2,278,000	51	5	9½
2,279,000	51	6	0½
2,280,000	51	6	4
2,281,000	51	6	7½
2,282,000	51	6	10½
2,283,000	51	7	1½
2,284,000	51	7	5
2,285,000	51	7	8½
2,286,000	51	7	11½
2,287,000	51	8	2½
2,288,000	51	8	6
2,289,000	51	8	9½
2,290,000	51	9	0½
2,291,000	51	9	3½
2,292,000	51	9	7
2,293,000	51	9	10½
2,294,000	51	10	1½
2,295,000	51	10	4½
2,296,000	51	10	8
2,297,000	51	10	11½
2,298,000	51	11	2½
2,299,000	51	11	5½
2,300,000	51	11	9
2,301,000	51	12	0½
2,302,000	51	12	3½
2,303,000	51	12	6½
2,304,000	51	12	10
2,305,000	51	13	1½
2,306,000	51	13	4½
2,307,000	51	13	7½
2,308,000	51	13	11
2,309,000	51	14	2½
2,310,000	51	14	5½
2,311,000	51	14	8½
2,312,000	51	15	0
2,313,000	51	15	3½
2,314,000	51	15	6½
2,315,000	51	15	9½
2,316,000	51	16	1
2,317,000	51	16	4½
2,318,000	51	16	7½
2,319,000	51	16	10½
2,320,000	51	17	2
2,321,000	51	17	5½
2,322,000	51	17	8½
2,323,000	51	17	11½
2,324,000	51	18	3
2,325,000	51	18	6½
2,326,000	51	18	9½
2,327,000	51	19	0½
2,328,000	51	19	4
2,329,000	51	19	7½
2,330,000	51	19	10½
2,331,000	52	0	1½
2,332,000	52	0	5
2,333,000	52	0	8½
2,334,000	52	0	11½
2,335,000	52	1	2½
2,336,000	52	1	6
2,337,000	52	1	9½
2,338,000	52	2	0½
2,339,000	52	2	3½
2,340,000	52	2	7
2,341,000	52	2	10½
2,342,000	52	3	1½
2,343,000	52	3	4½
2,344,000	52	3	8
2,345,000	52	3	11½
2,346,000	52	4	2½
2,347,000	52	4	5½
2,348,000	52	4	9
2,349 000	52	5	0½
2,350,000	52	5	3½
2,351,000	52	5	6½
2,352,000	52	5	10
2,353,000	52	6	1½
2,354,000	52	6	4½
2,355,000	52	6	7½
2,356,000	52	6	11
2,357,000	52	7	2½
2,358,000	52	7	5½
2,359,000	52	7	8½
2,360,000	52	8	0
2,361,000	52	8	3½
2,362,000	52	8	6½
2,363,000	52	8	9½
2,364,000	52	9	1
2,365,000	52	9	4½
2,366,000	52	9	7½
2,367,000	52	9	10½
2,368,000	52	10	2
2,369,000	52	10	5½
2,370,000	52	10	8½
2,371,000	52	10	11½
2,372,000	52	11	3
2,373,000	52	11	6½
2,374,000	52	11	9½
2,375,000	52	12	0½
2,376,000	52	12	4
2,377,000	52	12	7½
2,378,000	52	12	10½
2,379,000	52	13	1½
2,380,000	52	13	5
2,381,000	52	13	8½
2,382,000	52	13	11½
2,383,000	52	14	2½
2,384,000	52	14	6
2,385,000	52	14	9½
2,386,000	52	15	0½
2,387,000	52	15	3½
2,388,000	52	15	7
2,389,000	52	15	10½
2,390,000	52	16	1½
2,391,000	52	16	4½
2,392,000	52	16	8
2,393,000	52	16	11½
2,394,000	52	17	2½
2,395,000	52	17	5½
2,396,000	52	17	9
2,397,000	52	18	0½
2,398,000	52	18	3½
2,399,000	52	18	6½
2,400,000	52	18	10
2,401,000	52	19	1½
2,402,000	52	19	4½
2,403,000	52	19	7½
2,404,000	52	19	11
2,405,000	53	0	2½
2,406,000	53	0	5½

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
2,407,000	53	0	8½	2,452,000	53	12	11	2,497,000	54	5	1½
2,408,000	53	1	0	2,453,000	53	13	2½	2,498,000	54	5	4½
2,409,000	53	1	3½	2,454,000	53	13	5½	2,499,000	54	5	7½
2,410,000	53	1	6½	2,455,000	53	13	8½	2,500,000	54	5	11
2,411,000	53	1	9½	2,456,000	53	14	0	2,501,000	54	6	2½
2,412,000	53	2	1	2,457,000	53	14	3½	2,502,000	54	6	5½
2,413,000	53	2	4½	2,458,000	53	14	6½	2,503,000	54	6	8½
2,414,000	53	2	7½	2,459,000	53	14	9½	2,504,000	54	7	0
2,415,000	53	2	10½	2,460,000	53	15	1	2,505,000	54	7	3½
2,416,000	53	3	2	2,461,000	53	15	4½	2,506,000	54	7	6½
2,417,000	53	3	5½	2,462,000	53	15	7½	2,507,000	54	7	9½
2,418,000	53	3	8½	2,463,000	53	15	10½	2,508,000	54	8	1
2,419,000	53	3	11½	2,464,000	53	16	2	2,509,000	54	8	4½
2,420,000	53	4	3	2,465,000	53	16	5½	2,510,000	54	8	7½
2,421,000	53	4	6½	2,466,000	53	16	8½	2,511,000	54	8	10½
2,422,000	53	4	9½	2,467,000	53	16	11½	2,512,000	54	9	2
2,423,000	53	5	0½	2,468,000	53	17	3	2,513,000	54	9	5½
2,424,000	53	5	4	2,469,000	53	17	6½	2,514,000	54	9	8½
2,425,000	53	5	7½	2,470,000	53	17	9½	2,515,000	54	9	11½
2,426,000	53	5	10½	2,471,000	53	18	0½	2,516,000	54	10	3
2,427,000	53	6	1½	2,472,000	53	18	4	2,517,000	54	10	6½
2,428,000	53	6	5	2,473,000	53	18	7½	2,518,000	54	10	9½
2,429,000	53	6	8½	2,474,000	53	18	10½	2,519,000	54	11	0½
2,430,000	53	6	11½	2,475,000	53	19	1½	2,520,000	54	11	4
2,431,000	53	7	2½	2,476,000	53	19	5	2,521,000	54	11	7½
2,432,000	53	7	6	2,477,000	53	19	8½	2,522,000	54	11	10½
2,433,000	53	7	9½	2,478,000	53	19	11½	2,523,000	54	12	1½
2,434,000	53	8	0½	2,479,000	54	0	2½	2,524,000	54	12	5
2,435,000	53	8	3½	2,480,000	54	0	6	2,525,000	54	12	8½
2,436,000	53	8	7	2,481,000	54	0	9½	2,526,000	54	12	11½
2,437,000	53	8	10½	2,482,000	54	1	0½	2,527,000	54	13	2½
2,438,000	53	9	1½	2,483,000	54	1	3½	2,528,000	54	13	6
2,439,000	53	9	4½	2,484,000	54	1	7	2,529,000	54	13	9½
2,440,000	53	9	8	2,485,000	54	1	10½	2,530,000	54	14	0½
2,441,000	53	9	11½	2,486,000	54	2	1½	2,531,000	54	14	3½
2,442,000	53	10	2½	2,487,000	54	2	4½	2,532,000	54	14	7
2,443,000	53	10	5½	2,488,000	54	2	8	2,533,000	54	14	10½
2,444,000	53	10	9	2,489,000	54	2	11½	2,534,000	54	15	1½
2,445,000	53	11	0½	2,490,000	54	3	2½	2,535,000	54	15	4½
2,446,000	53	11	3½	2,491,000	54	3	5½	2,536,000	54	15	8
2,447,000	53	11	6½	2,492,000	54	3	9	2,537,000	54	15	11½
2,448,000	53	11	10	2,493,000	54	4	0½	2,538,000	54	16	2½
2,449,000	53	12	1½	2,494,000	54	4	3½	2,539,000	54	16	5½
2,450,000	53	12	4½	2,495,000	54	4	6½	2,540,000	54	16	9
2,451,000	53	12	7½	2,496,000	54	4	10	2,541,000	54	17	0½

Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.	Quantity of Water in Gallons.	Amount of Charge. £	s.	d.
2,542,000	54	17	3½	2,587,000	55	9	5½	2,632,000	56	1	6
2,543,000	54	17	6½	2,588,000	55	9	9	2,633,000	56	1	9
2,544,000	54	17	10	2,589,000	55	10	0½	2,634,000	56	2	0
2,545,000	54	18	1½	2,590,000	55	10	3½	2,635,000	56	2	3
2,546,000	54	18	4½	2,591,000	55	10	6½	2,636,000	56	2	6
2,547,000	54	18	7½	2,592,000	55	10	10	2,637,000	56	2	9
2,548,000	54	18	11	2,593,000	55	11	1½	2,638,000	56	3	0
2,549,000	54	19	2½	2,594,000	55	11	4½	2,639,000	56	3	3
2,550,000	54	19	5½	2,595,000	55	11	7½	2,640,000	56	3	6
2,551,000	54	19	8½	2,596,000	55	11	11	2,641,000	56	3	9
2,552,000	55	0	0	2,597,000	55	12	2½	2,642,000	56	4	0
2,553,000	55	0	3½	2,598,000	55	12	5½	2,643,000	56	4	3
2,554,000	55	0	6½	2,599,000	55	12	8½	2,644,000	56	4	6
2,555,000	55	0	9½	2,600,000	55	13	0	2,645,000	56	4	9
2,556,000	55	1	1	2,601,000	55	13	3½	2,646,000	56	5	0
2,557,000	55	1	4½	2,602,000	55	13	6½	2,647,000	56	5	3
2,558,000	55	1	7½	2,603,000	55	13	9½	2,648,000	56	5	6
2,559,000	55	1	10½	2,604,000	55	14	1	2,649,000	56	5	9
2,560,000	55	2	2	2,605,000	55	14	4½	2,650,000	56	6	0
2,561,000	55	2	5½	2,606,000	55	14	7½	2,651,000	56	6	3
2,562,000	55	2	8½	2,607,000	55	14	10½	2,652,000	56	6	6
2,563,000	55	2	11½	2,608,000	55	15	2	2,653,000	56	6	9
2,564,000	55	3	3	2,609,000	55	15	5½	2,654,000	56	7	0
2,565,000	55	3	6½	2,610,000	55	15	8½	2,655,000	56	7	3
2,566,000	55	3	9½	2,611,000	55	15	11½	2,656,000	56	7	6
2,567,000	55	4	0½	2,612,000	55	16	3	2,657,000	56	7	9
2,568,000	55	4	4	2,613,000	55	16	6½	2,658,000	56	8	0
2,569,000	55	4	7½	2,614,000	55	16	9½	2,659,000	56	8	3
2,570,000	55	4	10½	2,615,000	55	17	0½	2,660,000	56	8	6
2,571,000	55	5	1½	2,616,000	55	17	4	2,661,000	56	8	9
2,572,000	55	5	5	2,617,000	55	17	7½	2,662,000	56	9	0
2,573,000	55	5	8½	2,618,000	55	17	10½	2,663,000	56	9	3
2,574,000	55	5	11½	2,619,000	55	18	1½	2,664,000	56	9	6
2,575,000	55	6	2½	2,620,000	55	18	5	2,665,000	56	9	9
2,576,000	55	6	6	2,621,000	55	18	8½	2,666,000	56	10	0
2,577,000	55	6	9½	2,622,000	55	18	11½	2,667,000	56	10	3
2,578,000	55	7	0½	2,623,000	55	19	2½	2,668,000	56	10	6
2,579,000	55	7	3½	2,624,000	55	19	6	2,669,000	56	10	9
2,580,000	55	7	7	2,625,000	55	19	9	2,670,000	56	11	0
2,581,000	55	7	10½	2,626,000	56	0	0	2,671,000	56	11	3
2,582,000	55	8	1½	2,627,000	56	0	3	2,672,000	56	11	6
2,583,000	55	8	4½	2,628,000	56	0	6	2,673,000	56	11	9
2,584,000	55	8	8	2,629,000	56	0	9	2,674,000	56	12	0
2,585,000	55	8	11½	2,630,000	56	1	0	2,675,000	56	12	3
2,586,000	55	9	2½	2,631,000	56	1	3	2,676,000	56	12	6

Quantity of Water in Gallons.	Amount of Charge			Quantity of Water in Gallons.	Amount of Charge.			Quantity of Water in Gallons.	Amount of Charge.		
	£	s.	d.		£	s.	d.		£	s.	d.
2,677,000	56	12	9	2,722,000	57	4	0	2,767,000	57	15	3
2,678,000	56	13	0	2,723,000	57	4	3	2,768,000	57	15	6
2,679,000	56	13	3	2,724,000	57	4	6	2,769,000	57	15	9
2,680,000	56	13	6	2,725,000	57	4	9	2,770,000	57	16	0
2,681,000	56	13	9	2,726,000	57	5	0	2,771,000	57	16	3
2,682,000	56	14	0	2,727,000	57	5	3	2,772,000	57	16	6
2,683,000	56	14	3	2,728,000	57	5	6	2,773,000	57	16	9
2,684,000	56	14	6	2,729,000	57	5	9	2,774,000	57	17	0
2,685,000	56	14	9	2,730,000	57	6	0	2,775,000	57	17	3
2,686,000	56	15	0	2,731,000	57	6	3	2,776,000	57	17	6
2,687,000	56	15	3	2,732,000	57	6	6	2,777,000	57	17	9
2,688,000	56	15	6	2,733,000	57	6	9	2,778,000	57	18	0
2,689,000	56	15	9	2,734,000	57	7	0	2,779,000	57	18	3
2,690,000	56	16	0	2,735,000	57	7	3	2,780,000	57	18	6
2,691,000	56	16	3	2,736,000	57	7	6	2,781,000	57	18	9
2,692,000	56	16	6	2,737,000	57	7	9	2,782,000	57	19	0
2,693,000	56	16	9	2,738,000	57	8	0	2,783,000	57	19	3
2,694,000	56	17	0	2,739,000	57	8	3	2,784,000	57	19	6
2,695,000	56	17	3	2,740,000	57	8	6	2,785,000	57	19	9
2,696,000	56	17	6	2,741,000	57	8	9	2,786,000	58	0	0
2,697,000	56	17	9	2,742,000	57	9	0	2,787,000	58	0	3
2,698,000	56	18	0	2,743,000	57	9	3	2,788,000	58	0	6
2,699,000	56	18	3	2,744,000	57	9	6	2,789,000	58	0	9
2,700,000	56	18	6	2,745,000	57	9	9	2,790,000	58	1	0
2,701,000	56	18	9	2,746,000	57	10	0	2,791,000	58	1	3
2,702,000	56	19	0	2,747,000	57	10	3	2,792,000	58	1	6
2,703,000	56	19	3	2,748,000	57	10	6	2,793,000	58	1	9
2,704,000	56	19	6	2,749,000	57	10	9	2,794,000	58	2	0
2,705,000	56	19	9	2,750,000	57	11	0	2,795,000	58	2	3
2,706,000	57	0	0	2,751,000	57	11	3	2,796,000	58	2	6
2,707,000	57	0	3	2,752,000	57	11	6	2,797,000	58	2	9
2,708,000	57	0	6	2,753,000	57	11	9	2,798,000	58	3	0
2,709,000	57	0	9	2,754,000	57	12	0	2,799,000	58	3	3
2,710,000	57	1	0	2,755,000	57	12	3	2,800,000	58	3	6
2,711,000	57	1	3	2,756,000	57	12	6	2,801,000	58	3	9
2,712,000	57	1	6	2,757,000	57	12	9	2,802,000	58	4	0
2,713,000	57	1	9	2,758,000	57	13	0	2,803,000	58	4	3
2,714,000	57	2	0	2,759,000	57	13	3	2,804,000	58	4	6
2,715,000	57	2	3	2,760,000	57	13	6	2,805,000	58	4	9
2,716,000	57	2	6	2,761,000	57	13	9	2,806,000	58	5	0
2,717,000	57	2	9	2,762,000	57	14	0	2,807,000	58	5	3
2,718,000	57	3	0	2,763,000	57	14	3	2,808,000	58	5	6
2,719,000	57	3	3	2,764,000	57	14	6	2,809,000	58	5	9
2,720,000	57	3	6	2,765,000	57	14	9	2,810,000	58	6	0
2,721,000	57	3	9	2,766,000	57	15	0	2,811,000	58	6	3

Quantity of Water in Gallons.	Amount of Charge.			Quantity of Water in Gallons.	Amount of Charge.			Quantity of Water in Gallons.	Amount of Charge.		
	£	s.	d.		£	s.	d.		£	s.	d.
2,812,000	58	6	6	2,857,000	58	17	9	2,902,000	59	9	0
2,813,000	58	6	9	2,858,000	58	18	0	2,903,000	59	9	3
2,814,000	58	7	0	2,859,000	58	18	3	2,904,000	59	9	6
2,815,000	58	7	3	2,860,000	58	18	6	2,905,000	59	9	9
2,816,000	58	7	6	2,861,000	58	18	9	2,906,000	59	10	0
2,817,000	58	7	9	2,862,000	58	19	0	2,907,000	59	10	3
2,818,000	58	8	0	2,863,000	58	19	3	2,908,000	59	10	6
2,819,000	58	8	3	2,864,000	58	19	6	2,909,000	59	10	9
2,820,000	58	8	6	2,865,000	58	19	9	2,910,000	59	11	0
2,821,000	58	8	9	2,866,000	59	0	0	2,911,000	59	11	3
2,822,000	58	9	0	2,867,000	59	0	3	2,912,000	59	11	6
2,823,000	58	9	3	2,868,000	59	0	6	2,913,000	59	11	9
2,824,000	58	9	6	2,869,000	59	0	9	2,914,000	59	12	0
2,825,000	58	9	9	2,870,000	59	1	0	2,915,000	59	12	3
2,826,000	58	10	0	2,871,000	59	1	3	2,916,000	59	12	6
2,827,000	58	10	3	2,872,000	59	1	6	2,917,000	59	12	9
2,828,000	58	10	6	2,873,000	59	1	9	2,918,000	59	13	0
2,829,000	58	10	9	2,874,000	59	2	0	2,919,000	59	13	3
2,830,000	58	11	0	2,875,000	59	2	3	2,920,000	59	13	6
2,831,000	58	11	3	2,876,000	59	2	6	2,921,000	59	13	9
2,832,000	58	11	6	2,877,000	59	2	9	2,922,000	59	14	0
2,833,000	58	11	9	2,878,000	59	3	0	2,923,000	59	14	3
2,834,000	58	12	0	2,879,000	59	3	3	2,924,000	59	14	6
2,835,000	58	12	3	2,880,000	59	3	6	2,925,000	59	14	9
2,836,000	58	12	6	2,881,000	59	3	9	2,926,000	59	15	0
2,837,000	58	12	9	2,882,000	59	4	0	2,927,000	59	15	3
2,838,000	58	13	0	2,883,000	59	4	3	2,928,000	59	15	6
2,839,000	58	13	3	2,884,000	59	4	6	2,929,000	59	15	9
2,840,000	58	13	6	2,885,000	59	4	9	2,930,000	59	16	0
2,841,000	58	13	9	2,886,000	59	5	0	2,931,000	59	16	3
2,842,000	58	14	0	2,887,000	59	5	3	2,932,000	59	16	6
2,843,000	58	14	3	2,888,000	59	5	6	2,933,000	59	16	9
2,844,000	58	14	6	2,889,000	59	5	9	2,934,000	59	17	0
2,845,000	58	14	9	2,890,000	59	6	0	2,935,000	59	17	3
2,846,000	58	15	0	2,891,000	59	6	3	2,936,000	59	17	6
2,847,000	58	15	3	2,892,000	59	6	6	2,937,000	59	17	9
2,848,000	58	15	6	2,893,000	59	6	9	2,938,000	59	18	0
2,849,000	58	15	9	2,894,000	59	7	0	2,939,000	59	18	3
2,850,000	58	16	0	2,895,000	59	7	3	2,940,000	59	18	6
2,851,000	58	16	3	2,896,000	59	7	6	2,941,000	59	18	9
2,852,000	58	16	6	2,897,000	59	7	9	2,942,000	59	19	0
2,853,000	58	16	9	2,898,000	59	8	0	2,943,000	59	19	3
2,854,000	58	17	0	2,899,000	59	8	3	2,944,000	59	19	6
2,855,000	58	17	3	2,900,000	59	8	6	2,945,000	59	19	9
2,856,000	58	17	6	2,901,000	59	8	9	2,946,000	60	0	0

Quantity of Water in Gallons.	Amount of Charge.			Quantity of Water in Gallons.	Amount of Charge.			Quantity of Water in Gallons.	Amount of Charge.		
	£	s.	d.		£	s.	d.		£	s.	d.
2,947,000	60	0	3	2,965,000	60	4	9	2,983,000	60	9	3
2,948,000	60	0	6	2,966,000	60	5	0	2,984,000	60	9	6
2,949,000	60	0	9	2,967,000	60	5	3	2,985,000	60	9	9
2,950,000	60	1	0	2,968,000	60	5	6	2,986,000	60	10	0
2,951,000	60	1	3	2,969,000	60	5	9	2,987,000	60	10	3
2,952,000	60	1	6	2,970,000	60	6	0	2,988,000	60	10	6
2,953,000	60	1	9	2,971,000	60	6	3	2,989,000	60	10	9
2,954,000	60	2	0	2,972,000	60	6	6	2,990,000	60	11	0
2,955,000	60	2	3	2,973,000	60	6	9	2,991,000	60	11	3
2,956,000	60	2	6	2,974,000	60	7	0	2,992,000	60	11	6
2,957,000	60	2	9	2,975,000	60	7	3	2,993,000	60	11	9
2,958,000	60	3	0	2,976,000	60	7	6	2,994,000	60	12	0
2,959,000	60	3	3	2,977,000	60	7	9	2,995,000	60	12	3
2,960,000	60	3	6	2,978,000	60	8	0	2,996,000	60	12	6
2,961,000	60	3	9	2,979,000	60	8	3	2,997,000	60	12	9
2,962,000	60	4	0	2,980,000	60	8	6	2,998,000	60	13	0
2,963,000	60	4	3	2,981,000	60	8	9	2,999,000	60	13	3
2,964,000	60	4	6	2,982,000	60	9	0	3,000,000	60	13	6

All quantities of water supplied beyond three million gallons per quarter will be charged for at the rate of 4·85 pence per thousand gallons.

NOTE.—The minimum quantities charged to parties who require service pipes of the following dimensions are as under, viz.:—

1½ in. pipe 14,600 gallons per quarter.
2 „ „ 20,000 „ „
3 „ „ 50,000 „ „
4 „ „ 100,000 „ „
5 „ „ 150,000 „ „

Town Hall, Manchester.
January, 1898.

GENERAL CHARGES FOR WATER WITHIN AND BEYOND THE LIMITS OF THE CITY.

WATER RATES WITHIN THE CITY.

PUBLIC WATER RATE, 1d. in the Pound, upon the Poor's-Rate Assessment *on all Property,* payable by the Owner.

DOMESTIC WATER RATE, 8d. in the Pound, upon the Poor's-Rate Assessment, *on all Dwelling Houses.*

No DWELLING HOUSE is charged less than 5/- each per annum if internally, of 4/- if externally supplied with water.

THE DOMESTIC WATER RATE ON HOUSES assessed at £10 and under, and all Weekly Houses assessed above that amount, is charged to the Owner, who is allowed a discount of 20 per cent. provided there are not less than *three* in number and payment is made, whether the same shall be occupied or unoccupied, on or before the 31st of October.

Shops in connection with Dwelling Houses are charged the Domestic Rate upon the whole premises, unless under special circumstances.

CHARGES OTHERWISE THAN BY METER.

SLACKING LIME, ½d. per square yard for 9-inch walling, superficial measure.

PLASTERING, one-third of the above charge.

JOBBING PURPOSES, 3/- per ton.

SOFTENING MORTAR, half the charge for Lime Slacking.

CONCRETING, 1d. per cubic yard.

SMITHY FIRES, 10/- per annum for one, and 7/- for each additional fire.

COWS, 4/- per annum each.

VEHICLES, when used for business purposes:—
Four wheels, 5/- per annum each.
Two wheels, 3/- per annum each.

HORSES used for trading purposes:—
One, 10/- per annum; Two or more, 7/- each per annum.

TUBES IN ADDITION TO THE DOMESTIC CHARGE:—
Tubes for Watering Gardens, Greenhouses, and for similar purposes, 10/- per annum for the first 800 square yards or under, and 5/- for each extra 800 or part thereof.
Tubes for Washing Windows or Flags, 3d. in the Pound on the Poor's-Rate Assessment. If for washing both Windows and Flags, 3d. in the Pound on the Rent of the premises. Maximum charge, 20/-; minimum, 5/- per annum.

In cases where there is a doubtful consumption of Water, a Meter is fixed. The following is the Cost and the Charge per Quarter for the Hire and Repair of the various Meters:

Size of Meter.	Cost of Meter.	Cost of Hiring Meter per Quarter.	Cost of Repairing Meter per Quarter.
½ in.	£6 0 0	£0 1 6	£0 1 6
¾ "	7 15 0	0 2 0	0 2 0
1 "	9 10 0	0 2 6	0 2 6
1½ "	14 10 0	0 3 6	0 3 6
2 "	19 5 0	0 4 6	0 4 6
3 "	32 10 0	0 7 6	0 7 6
4 "	48 0 0	0 12 6	0 12 6
5 "	66 0 0	0 17 6	0 17 6

The Charge for Water by Meter is as per Printed Scale.

A discount of 5 per cent. is allowed off all meter accounts of 10/- per quarter and upwards, exclusive of charge for hire and repair, if paid not later than the last week-day in the months of July, October, January, and April.

CHARGES FOR WATER BEYOND THE LIMITS OF THE CITY.

DWELLING HOUSES, 11d. in the Pound on the Annual Value. No House is charged less than 8/- per annum. Weekly Houses are charged to the Owner, who is allowed a discount of 20 per cent., provided there are not less than *three* in number and payment is made, whether the same shall be occupied or unoccupied, on or before the 31st of August.

In cases where two or more Houses are supplied by one service-pipe from the main, the Water Rental is charged to the Owner of the Property, whether weekly or quarterly.

The charges for Trading purposes are the same as in the City, but are payable annually.

Baths in Weekly Houses within and beyond the limits of the City are charged 5/- each per annum in addition to the supply for Domestic purposes.

Waterworks Offices,
Town Hall, Manchester,
January, 1900.

Appendix C—Exhibit 2.

The Corporation do not undertake to keep the pipes constantly under pressure or charged with water, nor are they responsible for any damage or accident which may rise in consequence of the cessation or interruption of the supply of water.

MANCHESTER CORPORATION WATER WORKS.

FORM OF AGREEMENT FOR SUPPLY OF WATER.

.....do hereby agree with the MAYOR, ALDERMEN and CITIZENS of the City of Manchester, to receive from them a supply of water for the use of

and to pay to the said Mayor, Aldermen and Citizens for the same, after the rate of £..... per annum, subject to the conditions mentioned at the back hereof, and also to the several powers, remedies, penalties and regulations comprised in the several Acts of Parliament passed for establishing the Corporation Water Works.

As witness my hand this ..... day of ....., 19 .

Signature.....

Address.....

Witness.....

The Corporation supply water on the following conditions, and subject to the several powers, remedies, penalties and regulations comprised in the Acts of Parliament passed for establishing the water works:

1. All rents to be paid in ADVANCE.

2. No water to be sold, given or wasted, nor any other person permitted or suffered to take or use the same.

3. Every tenant is considered as bound one year, and subject to three months' notice in writing, commencing with any quarter after the expiration of the first year.

4. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alteration may have taken place.

5. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

MANCHESTER CORPORATION WATER WORKS.

FORM OF AGREEMENT FOR SUPPLY OF WATER BY METER.

.....do hereby agree with the MAYOR, ALDERMEN and CITIZENS of the City of Manchester, to receive from them a supply of ..... gallons per quarter for .....and to pay to the said MAYOR, ALDERMEN and CITIZENS for the same £.....per quarter; and for all water consumed above the stipulated quantity to pay according to the meter scale of charges, subject to the conditions mentioned at the back hereof.

.....further agree with the said MAYOR, ALDERMEN and CITIZENS to pay ..... per quarter for the .....of a ..... inch meter; and also the expense of fixing the said meter, and the requisite stop tap and piping.

As witness my hand this ..... day of ....., 19 .

Signature.....

Address.....

Witness.....

The Corporation do not undertake to keep the pipes constantly under pressure or charged with water, nor are they responsible for any damage or accident which may arise in consequence of the cessation or interruption of the supply of water.

The Corporation supply water on the following conditions, and subject to the several powers, remedies, penalties and regulations comprised in the several Acts of Parliament passed for establishing the water works:

No water to be sold by the person supplied by meter, or given to persons who are not supplied by the Corporation.

Every tenant is considered as bound one year, and subject to three months' notice in writing, commencing with any quarter after the expiration of the first year.

The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

MANCHESTER CORPORATION WATER WORKS.

FORM OF AGREEMENT FOR SUPPLY OF WATER BY METER.

.....do hereby agree with the MAYOR, ALDERMEN and CITIZENS of the City of Manchester, to receive from them a supply of water per meter for .... and to pay to the said MAYOR, ALDERMEN and CITIZENS for the same according to their meter scale of charges, subject to the conditions mentioned at the back hereof.

..... further agree with the said MAYOR, ALDERMEN and CITIZENS to pay ..... per quarter for the ..... of a ..... inch meter; and also the expense of fixing the said meter and the requisite stop tap and piping.

As witness my hand this ..... day of ....., 19 .

Signature.....

Address.....

Witness.....

(The endorsed conditions are the same as on the last preceding form).

AGREEMENT AS TO SUPPLY OF WATER WHERE FIRE-EXTINGUISHING APPARATUS IS FIXED ON PRIVATE PREMISES.

ARTICLES OF AGREEMENT made the ..... day of ....., 19 , between THE MAYOR, ALDERMEN and CITIZENS of the City of Manchester in the County of Lancaster (hereinafter called "the Corporation") of the first part and of the second part.

WHEREAS by an Act of Parliament passed in the 10th and 11th year of the reign of our Sovereign Lady, Queen Victoria c. 203 (Local and Personal) it was enacted that it should be lawful for the Corporation to supply any person with water for other than domestic purposes at such rent and upon such terms and conditions as should be agreed upon between the Corporation and the person desirous of having such supply of water, and in pursuance of such enactment, application has been made to the Corporation by the said party of the second part for a supply of water for other than domestic purposes to the building .....,

and the Corporation have agreed to furnish such supply subject to the rents, covenants, provisoes and conditions, and upon the terms hereinafter reserved and contained,

AND WHEREAS certain fittings in connection with the said supply of water have been submitted by the said party hereto of the second part to the Corporation for approval, and the Corporation have approved and passed the same and have caused the stamp of the Corporation, "M. C. W. W.," to be marked upon the said fittings.

NOW it is hereby mutually agreed and declared between and by the parties hereto as follows:

1. The Corporation agree with the said party hereto of the second part to supply the said party hereto of the second part with such quantity of water as may be reasonably required by the said party hereto of the second part, subject, nevertheless, to the covenants and conditions and provisoes hereinafter contained.

2. There shall be placed and kept and maintained by the said party hereto of the second part in some convenient position accessible at all times to inspection by the Corporation a sufficient meter to be approved by the Corporation, through which all water supplied by the said party hereto of the second part shall be compelled to pass. If such meter be hired from the Corporation or be repaired by them in consideration of an annual payment or otherwise, the Corporation do not undertake any responsibility whatsoever in relation to such meter or any breakage, bursting or leakage thereof.

3. The said party hereto of the second part doth hereby agree with the Corporation to pay the Corporation for the said supply of water according to the printed meter scale of charges hereunto annexed, subject to any variation thereof which may from time to time be duly made by the authority of the Corporation, such last mentioned payment to be made quarterly upon the usual quarter days.

4. It is hereby mutually agreed between the Corporation and the said party hereto of the second part, that the said arrangement as to the

supply of and payment for the said supply of water shall continue and be in force for one year from the ..... day of ....., 19 , and after the expiration of the said year, shall be determinable upon either side by three calendar months' notice in writing, to expire on any of the usual quarter days.

5. PROVIDED ALWAYS, and it is hereby agreed and declared that the Corporation shall not by reason of the stamping of the said fittings or otherwise, be understood to guarantee or warrant, and the Corporation do not in any way guarantee or warrant the soundness or fitness of the said fittings hereinbefore mentioned; PROVIDED ALWAYS, and it is hereby agreed and declared that no water supplied to the said party hereto of the second part by the Corporation shall be either sold, or given away by the said party hereto of the second part, PROVIDED ALWAYS, and it is hereby agreed and declared that in addition to any rights, conditions, powers and remedies hereby reserved to the Corporation or herein contained in their behalf and by way of cumulative remedy, the Corporation may exercise in relation to the water supply hereby agreed for all or any of the several powers, remedies and penalties reserved and granted to the Corporation by the several Acts of Parliament passed for establishing and maintaining the water works of the Corporation or any by-laws for the time being, made in pursuance thereof. PROVIDED further that save as hereinbefore expressly mentioned, the provisions of the said acts or any acts incorporated therewith shall not be deemed to be incorporated in these presents, nor to have any application to the arrangements hereby made which are and are intended to be solely by way of contract as above expressed.

6. PROVIDED ALWAYS, and it is hereby agreed and declared that in case the said party hereto of the second part shall at any time fail to carry out or comply with or shall infringe upon any of the terms, conditions and stipulations herein reserved and contained, the Corporation shall be at liberty and have full power without any previous notice, to cut off and discontinue the said supply of water to the said party hereto of the second part.

7. PROVIDED ALWAYS, and it is hereby agreed and declared that nothing herein contained shall be construed to make the Corporation liable and the Corporation shall not be liable to keep the said party hereto of the second part constantly supplied with water or to keep the mains and pipes of the Corporation or of the said party hereto of the second part constantly under pressure or charged with water, or to make the Corporation responsible, and the Corporation shall not be responsible for any negligence actual or constructive of the Corporation or of any servant, workman or agent employed by the Corporation in relation to the said mains, pipes, meter or fittings, or in connection with the said supply of water or for any damage, accident or loss which may arise in consequence of any cessation or interruption of the supply of water in the said mains, pipes and meter, or in consequence of any defect in or non-repair or disarrangement of the said mains, pipes, meter and fittings, or the laying down and connection of the same or for any damage, accident or loss which may be sustained by any person or persons whatsoever

in consequence of or which may in any way arise in connection with the said supply or non-supply of water to the said party hereto of the second part by the Corporation, whether on the ground of contract, negligence or otherwise howsoever.

8. The said party hereto of the second part doth hereby for himself, his heirs, executors, administrators and assigns, absolutely remise, release and forever quit claim unto the Corporation, their successors and assigns, all and all manner of actions, suits, causes of action and suit, sum and sums of money, claims, compensations and demands whatsoever at law or in equity or under any statute or statutes which he, the said party hereto of the second part, now has or which the said party hereto of the second part, his heirs, executors, administrators or assigns, can, shall or may at any time or times hereafter have, claim or demand upon or against the Corporation, their successors or assigns, for or by reason or in respect of or arising out of any such negligence as aforesaid, or the supply of the said meter or the fixing and connecting of the same or the passing and stamping of the said fittings, or in any way whatsoever in connection with the said supply or non-supply of water to the said party hereto of the second part by the Corporation, whether on the ground of contract, negligence or otherwise howsoever.

9. The said party hereto of the second part doth hereby for himself, his heirs, executors, administrators and assigns, covenant with the Corporation, their successors and assigns that the said party hereto of the second part, his heirs, executors, administrators and assigns will at all times, indemnify and save harmless the Corporation, their successors and assigns from and against all and all manner of actions, suits, causes of action and suit, sum and sums of money, claims, compensation and demands whatsoever, at law or in equity, or under any statute or statutes which any other person or persons whatsoever now have or can, shall or may at any time or times hereafter have, claim or demand upon or against the Corporation, their successors and assigns, for or by reason or in respect of or arising out of any such negligence as aforesaid, or the supply or repair of the said meter or the fixing and connecting of the same or the passing and stamping of the said fittings or in any way whatsoever in connection with the said supply or non-supply of water to the said party hereto of the second part by the Corporation, whether on the ground of contract, negligence or otherwise howsoever, PROVIDED ALSO, and it is hereby also declared and agreed that the term "the said party hereto of the second part" shall be held to include, apply to, bind and render liable the party to these presents of the second part, his heirs, executors, administrators and assigns and in the case of more than one person being party hereto of the second part shall be held to include, apply to, bind and render liable the parties to these presents of the second part jointly and severally and their respective heirs, executors, administrators and assigns, and in the case of a Company or Body Corporate being party hereto of the second part shall be held to apply to such Company or Body Corporate, their successors and assigns.

IN WITNESS WHEREOF the said Mayor, Aldermen and Citizens have hereunto affixed their Corporate Seal and the said party hereto

of the second part hath hereunto affixed his hand and seal the day and year first before written.

FORM OF AGREEMENT

In use for Supply of Water from the Thirlmere Aqueduct to Private Property or Estates Along its Route.

MANCHESTER CORPORATION WATER WORKS.

AGREEMENT FOR SUPPLY OF WATER BY METER FROM THE THIRLMERE AQUEDUCT.

.....who is hereinafter referred to as "The Consumer," doth hereby agree with the MAYOR, ALDERMEN and CITIZENS of the City of Manchester, who are hereinafter referred to as "The Corporation," to receive from them a supply of ..... gallons of water per quarter for .... and to pay to the said Corporation for the same £..... per quarter, and also to pay for all water consumed above the stipulated quantity according to the meter scale of charges subject to the undermentioned conditions.

The consumer further agrees with the Corporation to pay .... per quarter for the ..... of a ..... inch meter, and also to pay the expenses of fixing the said meter and the requisite valves and piping.

THE CONDITIONS REFERRED TO.

The consumer must provide and lay at his own cost the service pipe from the meter to the place where the water is consumed.

The Corporation do not undertake to keep the service pipe constantly under pressure or charged with water, nor are they responsible for any damage or accident which may arise in consequence of the cessation or interruption of the supply of water.

The supply is subject to the several powers, conditions, remedies, penalties and regulations comprised in the several Acts of Parliament, passed for establishing the water works.

No water to be sold by the consumer or given to persons who are not supplied by the Corporation.

This agreement may be determined by either party by three months' notice in writing, expiring on one of the usual quarter days.

The consumer must obtain the consent of all necessary parties.

The Corporation reserve the power of discontinuing the supply forthwith in case of any refusal or failure to comply with the foregoing conditions.

Dated this ..... day of ....., 19 .

Signature.....

Witness.....

NOTICE OF INTENTION TO MAKE WATER RATES.

CITY OF MANCHESTER.

NOTICE IS HEREBY GIVEN That it is the intention of the Council of this City, at the meeting to be holden on the ..... day of ..... next, or at an adjournment of such meeting, to make, as authorized to be made under the provisions of "The Manchester Corporation Waterworks Act, 1847," the domestic water rate and the public water rate for the current financial year, ending 31st March, 19 ; and further, that a statement of the proposed rates is now deposited for inspection at the office of the City Treasurer, Town Hall, Princess Street, and with Mr. ....., of the Waterworks Department, at the Waterworks Office, Town Hall, Cooper Street.

Dated this ..... day of ..... 19 .

By Order

.....

Town Clerk.

When it becomes necessary to make repairs or put on additional fittings, or to call attention to irregular fittings, the following forms are used, viz.:

NOTICE OF REPAIRS OR ADDITIONAL FITTINGS.

N. B. No additional fittings must be connected to the water supply until they have been inspected and approved, and WRITTEN consent received to make the connection. See Regulation No. 3.

Irregular Notice Progressive No. .....
Date when served .....
Date when settled .....

MANCHESTER CORPORATION WATERWORKS.
(Entrance, Cooper Street, End of the Town Hall.)

....., 19 .

Alteration Progressive No. .....
Date when delivered to sub-inspector .....
Date when inspected .....

GENTLEMEN—Pursuant to your instructions, I herewith send you a statement of repairs made in existing water pipes, or additional fittings laid down.

Description of Premises .....
Street and Number on Door .....
In the Township of .....
Belonging to .....
Occupied by .....

DESCRIPTION OF REPAIRS OR ADDITIONAL FITTINGS.

.....
.....
.....

Fitter's Name .....
Address .....

NOTICE OF NEW FITTINGS.

N. B. No fittings must be connected to the water supply until they have been inspected and approved and WRITTEN consent received to make the connections. See Regulation No. 3

Irregular Notice Progressive No. .....
Date when served .....
Date when settled .....

MANCHESTER CORPORATION WATERWORKS.

(Entrance, Cooper Street, End of the Town Hall.)

....., 19 .

Application Progressive No. .....
Date when delivered to sub-inspector .....
Date when inspected .....

GENTLEMEN—The internal fittings in the undermentioned premises being ready for the introduction of the water at the point approved of by the proper officer of the Corporation, I have to request that the necessary inspection be made.

Number of Dwelling Houses* .....
Street and Number on Door .....
In the Township of .....
Owner .....
Occupier .....
Contractor .....
Particulars of fittings .....
Diameter of pipe brought through the wall.....
Weight of pipes fixed..... { ⅜ inch ..... 1 inch..... ½ inch .....1¼ inch ..... ¾ inch .....
Situation of stop cock .....
By whom fitted up .....
Address of fitter .....

*If not a Dwelling House, Particulars of the Premises, and the purpose for which the water is required must be stated.

To the Manchester Corporation Waterworks Committee.

NOTICE OF WATER FITTINGS BEING IRREGULAR.

MANCHESTER CORPORATION WATERWORKS.

Waterworks Office, Town Hall,
MANCHESTER, ..., 19.

Sir—The inspector having reported that the undermentioned fittings are not in accordance with the Waterworks Committee's regulations, I am therefore directed to inform you that the water cannot be allowed to be supplied to them until they are altered according to such regulations.

I am, sir,
Yours respectfully,

.....

Alteration P. No. .....
Name of owner or occupier .....
Street where property is situate .....
Particulars of irregular fittings .....
.....
.....
.....
.....

N. B. Please inform Mr. ..... the General Inspector of water supply and fittings, at these offices, *in writing*, when the fittings are properly altered.

UNDERTAKING TO COMPLETE FITTINGS.

.....

In consideration of the water being immediately supplied to .....before the internal water fittings are completed, ... undertake to have such fittings provided and fixed, in accordance with the Waterworks Committee's regulations, without any delay whatever.

Name.....
Address.....

AUTHORITY TO CONNECT WATER.

MANCHESTER CORPORATION WATERWORKS.

No. ..... Date, ... 19 .
The pipe may be connected to supply water to .....
.....
.....
Inspector.

M.....

NOTICE TO REPAIR PIPE, ETC.

MANCHESTER CORPORATION WATERWORKS.

To.....
.....

On behalf of the Mayor, Aldermen and Citizens of the City of Manchester, in the County of Lancaster, I do hereby give you notice, and require you forthwith to repair, *remove or alter,* the pipe, valve, cock, cistern, water-closet or other apparatus, of you (being a person supplied by the said Mayor, Aldermen and Citizens with water) situate (a)
.....
.....
in the Township of .....,
in the said (b) .....
.....
.....
.....
.....
so as to prevent the misuse, undue consumption, contamination or waste of water, or so as to make the said pipe, valve, cock, cistern, water-closet, or other apparatus in conformity with the regulations of the Council of the said City. And I do hereby further give you notice, that unless you shall, within twenty-four hours after the service hereof, comply with this notice, the said Mayor, Aldermen and Citizens will, under the power in that behalf contained in the Manchester Corporation Waterworks and Improvement Act, 1867 (c), cause the said pipe, valve, cock, cistern, water-closet, or other apparatus to be repaired, removed or altered, and take proceedings to recover from you, as damages, the expenses of such repair, removal, or alteration, as authorized by the said Act.

Dated this ..... day of ....., 19 .

WM. HENRY TALBOT,
Town Clerk.

The person to whom this notice is addressed should employ forthwith a plumber who is on the Authorized List printed on the back of the water rate or rental notes, in order that the work may be completed within the twenty-four hours specified in the above notice, and the penalties imposed by the Waterworks Acts be thus avoided.

All inquiries in reference to this notice are to be made at the Waterworks Office, Town Hall, Manchester (Cooper Street Entrance).

NOTICE FOR PLUMBING ACCOUNT.

Prog. No. .....

MANCHESTER CORPORATION WATERWORKS.

Town Hall,
Cooper Street, ..., 19 .

The Collector having applied to you for payment of your plumbing account without effect, I am instructed to inform you that the same will be enforced if not paid at this office within ten days from the date hereof.

I am,
Your obedient servant,
.....
Town Clerk.

£.....

WATERWORKS PLUMBING ACCOUNT.

Summons.

City of Manchester, To wit. } To ..... of ..... in the City of Manchester.

WHEREAS Complaint hath this day been made before the undersigned, one of Her Majesty's Justices of the Peace in and for the City of Manchester, for that the Mayor, Aldermen and Citizens of the City of Manchester, in the County of Lancaster, after twenty-four hours' notice given to you, on the ..... day of ....., 19 , did repair, remove or alter a certain pipe, valve, cock, cistern, water-closet or other apparatus at certain premises, to wit, a certain dwelling house, ... in ..... Street, in the Township of ....., in the said City, of you being a person supplied by the said Mayor, Aldermen and Citizens with water, so as to prevent the misuse, undue consumption, contamination, or waste of water, or so as to make the same in conformity with the regulations of the Council of the said City; and for that you being a person on whose credit the water is supplied to the said premises, have neglected to repay to the said Mayor, Aldermen and Citizens, the expenses of such repairs or alterations, to wit, the sum of £ s. d. contrary to the Manchester Corporation Waterworks and Improvement Act, 1867;

These are therefore (by virtue of the said Act, and the Manchester Corporation Waterworks Act, 1847), to command you in Her Majesty's name to be and appear on the ..... day of ....., 19 , at ten o'clock in the forenoon, at the Court House, in Bloom Street, in the said City, before such Justice of the Peace for the said City as may then be there, to show cause why the said expenses should not be paid, and why the said Justice should not issue his warrant for levying the same by distress and sale of your goods and chattels pursuant to the said Acts, or one of them. And take notice that if you do not appear at the time and place aforesaid, you will be proceeded against by default, as if you had appeared, and be dealt with according to law.

GIVEN under my hand and seal this ..... day of ....., 19 .

Appendix C—Exhibit 3.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RENTS.

For the Year Ending 31st March, 1903.

Mr. _____

_____ *Street*

(107) To the Lord Mayor, Aldermen, and Citizens of the City of Manchester, Dr.

Prop. No.	Situation of Property.	Annual Value.	Domestic Water Rent at Weekly Property at 11d. in the £.	Composition if Paid before 31st August, 1902	Net Amount Payable.

Specimen

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND.

And you are requested to pay the same to Mr. J. W. SULLIVAN, the Waterworks Office, Town Hall (Cooper Street entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations contained in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with Water shall be altered, increased, or improved, or used for any other purpose than was in the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date when such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

N.B.—Penalty for Waste of Water, £5 for each offence.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

All Applications or Complaints, as to the supply of Water must be made at the Waterworks Office, Town Hall.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Office, Town Hall.

WATER RENTS.

For the Year Ending 31st March, 1903.

*Mr.*_____

_____ *Street.*

To the Lord Mayor, Aldermen, and Citizens of the City of Manchester, Dr.

Prop. No.	Situation of Property.	Annual Value.	Domestic Water Rent at 11d. in the £.

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND.

And you are requested to pay the same to Mr. J. W. SULLIVAN, or at the Waterworks Offices, Town Hall (Cooper Street entrance), between the hours of 9 and 4-30-o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taxed for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service-pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

N.B.—Penalty for Waste of Water, £5 for each offence.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

TUBES FOR WATERING GARDENS AND FOR SIMILAR PURPOSES ARE CHARGED EXTRA.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

☞ All Communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RENTS.

Progressive No. _____

Mr. _____ *No.* *Street.*

[67] To the Lord Mayor, Aldermen, and Citizens of the City of Manchester, Dr.
FOR WATER RENT.

For the Half-year ending _____ 1890 £ s. d.

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND.

And you are requested to pay the same to Mr. J. W. SULLIVAN, or at the Waterworks Offices, Town Hall (Cooper Street entrance) between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, penalties, prohibitions, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other persons permitted or procured to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service-pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

N.B.—Penalty for Waste of Water, £5 for each offence.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Offices, Town Hall.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RATES.—CITY OF MANCHESTER.

From 1st April 1902, to 31st March, 1903, inclusive.

THESE RATES ARE DUE AND PAYABLE ON DEMAND.

Prog. No.

Mr. _____

_____ Street.

PUBLIC WATER RATE on £_____ Assessment at 1d. in the Pound.

DOMESTIC WATER RATE on £_____ Assessment at 8d. in the Pound.

Which Rates you are requested to pay to Mr. J. W. SULLIVAN, at the Waterworks Offices, TOWN HALL, Manchester (Cooper Street Entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

PENALTY FOR WASTE OF WATER, 25 FOR EACH OFFENCE.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

TUBES FOR WATERING GARDENS AND FOR SIMILAR PURPOSES ARE CHARGED EXTRA.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

All Applications or Complaints as to the supply of Water must be made Waterworks Offices, Town Hall.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

No Appeals can be attended to after the 30th September, 1902.

SPECIAL NOTICE.

NO COMPOSITION WHATEVER FOR WEEKLY [illegible], EXCEPTS, BEING NOT LESS THAN THREE IN NUMBER, WILL BE ALLOWED AFTER THE 31st OCTOBER, 1902.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Offices, Town Hall.

All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

WATER RATES.—CITY OF MANCHESTER.

From 1st April 1902, to 31st March, 1903, inclusive.

THESE RATES ARE DUE AND PAYABLE ON DEMAND.

Prog. No.)

Mr. .....

..... *Street.*

PUBLIC WATER RATE on £..... Assessment at 1d. in the Pound...

DOMESTIC WATER RATE on £..... Assessment at 8d. in the Pound...

Stand Pipes.....

Which Rates you are requested to pay to Mr. ..... or at the Waterworks Offices, TOWN HALL, Manchester (Cooper Street Entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

PENALTY FOR WASTE OF WATER, £5 FOR EACH OFFENCE.

A Receipt must be given from the Official Receipt Book, as the Committee recognise no other.

Prog. No.	[Street.]	Assessment.	Public Water Rate.	Domestic Water Rate on Weekly Property.	Domestic Water Rate on Quarterly Property.
		£ s.	£ s. d.	£ s. d.	£ s. d.

In accordance with the Manchester Waterworks Act, 1858, no House, Cottage, Cellar, Room, or other place used as a Domestic Occupation is LESS than 4s. per annum if externally supplied, and 2s. each if internally supplied with Water.

NO APPEALS can be attended to after the 30th day of September, 190 2

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Offices, Town Hall.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

ARREARS.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RENTS.

Progressive No.

Mr. _____ *No.* _____ *Street.*

To the Lord Mayor, Aldermen, and Citizens of the City of Manchester, Dr.

FOR WATER RENT.

For the *ending* 19 £ s. d.

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND

And you are requested to pay the same to Mr. or at the Waterworks Offices, Town Hall, (Cooper Street entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an additional increase shall be paid from the date that such alterations shall have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

N.B.—Penalty for Waste of Water, £5 for each offence.

A Receipt must be given from the Collector's Cheque Book, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Offices, Town Hall.

ARREARS.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RENTS.

For the ending 19

Mr. _____

_____ *Street.*

To the Lord Mayor, Aldermen, and Citizens of the City of Manchester, Dr.

Prop. No.	Situation of Property.	Annual Rack Rent or Value.	Domestic Water Rent at 11d. in the £.

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND,

And you are requested to pay the same to Mr or at the Waterworks Offices, Town Hall, (Cooper Street entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor to any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service-pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

In accordance with the "Manchester Corporation Waterworks Act, 1847," no Dwelling House or part of a Dwelling House supplied with Water is charged LESS than 6s. per annum.

N.B.—Penalty for Waste of Water, £5 for each offence.

A Receipt must be given from the Collector's Cheque Book, as the Committee recognise no other.

TUBES FOR WATERING GARDENS AND FOR SIMILAR PURPOSES ARE CHARGED EXTRA.

N.B.- SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

ARREARS.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

WATER RATES.—CITY OF MANCHESTER.

All Applications or Complaints as to the supply of Water must be made at the Waterworks Offices, Town Hall.

From to 19 inclusive.

THESE RATES ARE DUE AND PAYABLE ON DEMAND.

Prog. No.

Mr.

Street.

PUBLIC WATER RATE on £ Assessment at 1d. in the Pound...

DOMESTIC WATER RATE on £ Assessment at 8d. in the Pound...

£

Which Rates you are requested to pay to Mr. or at the Waterworks Offices, TOWN HALL, Manchester (Cooper Street Entrance), between the hours of 9 and 4-30 o'clock except on Saturdays, from 9 to 1 only.

PENALTY FOR WASTE OF WATER, £5 FOR EACH OFFENCE.

A Receipt must be given from the Collector's Cheque Book, as the Committee recognise no other.

TUBES FOR WATERING GARDENS AND FOR SIMILAR PURPOSES ARE CHARGED EXTRA

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

IMPORTANT.

CONSUMERS OF WATER BY METER ARE RESPONSIBLE FOR ALL WATER USED OR WASTED AFTER IT HAS PASSED THE METER, WHETHER SUCH WASTE BE CAUSED THROUGH BURST PIPES OR OTHERWISE; AND WITH THE VIEW OF DETECTING ANY WASTE OR UNDUE CONSUMPTION, IT IS SUGGESTED THAT FREQUENT READINGS OF THE METER BE TAKEN BY THE CONSUMER.

IN CASE THERE IS ANY STOPPAGE IN THE SUPPLY OR IN THE REGISTRATION OF THE METER IMMEDIATE NOTICE SHOULD BE GIVEN AT THE WATERWORKS OFFICES.

INFORMATION AS TO THE METHOD OF TAKING THE READINGS, &c., WILL, IF DESIRED, BE GIVEN BY THE METER READER WHEN HE CALLS.

Prog. No.

METER ACCOUNT.

M.....

..... *No.*..... *Street.*

TO THE LORD MAYOR, ALDERMEN, & CITIZENS

OF THE CITY OF MANCHESTER,

(60) FOR WATER RENT, FOR TRADING PURPOSES.

DATE.	GALLONS.	AMOUNT As per Printed Scale of Charges. £	s.	d.
Indication of Meter on the 190				
Do. on the 190				
Quantity of Water consumed				
Quarterly Charge for Hire of Meter				
Do. Repairing do.				

DISCOUNT OF 5 PER CENT. ALLOWED OFF ALL ACCOUNTS OF 10s. PER QUARTER AND UPWARDS, EXCLUSIVE OF CHARGE FOR HIRE AND REPAIR, IF PAID NOT LATER THAN

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND,

And you are requested to pay the same to Mr. *or at the Waterworks Office, Town Hall*

(Cooper Street Entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks :—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than neither the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service-pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF. [over.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

All Applications or Complaints as to the Supply of Water must be made at the Waterworks Offices, Town Hall

☞ All communications respecting change of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

IMPORTANT.

CONSUMERS OF WATER BY METER ARE RESPONSIBLE FOR ALL WATER USED OR WASTED AFTER IT HAS PASSED THE METER, WHETHER SUCH WASTE BE CAUSED THROUGH BURST PIPES OR OTHERWISE; AND WITH THE VIEW OF DETECTING ANY WASTE OR UNDUE CONSUMPTION, IT IS SUGGESTED THAT FREQUENT READINGS OF THE METER BE TAKEN BY THE CONSUMER.

IN CASE THERE IS ANY STOPPAGE IN THE SUPPLY OR IN THE REGISTRATION OF THE METER, IMMEDIATE NOTICE SHOULD BE GIVEN AT THE WATERWORKS OFFICES.

INFORMATION AS TO THE METHOD OF TAKING THE READINGS, &c., WILL, IF DESIRED, BE GIVEN BY THE METER READER WHEN HE CALLS.

All Applications or Complaints as to the Supply of Water must be made at the Waterworks Offices, Town Hall.

Prog. No.

METER ACCOUNT

M.....

..... *No.*..... *Street.*

TO THE LORD MAYOR, ALDERMEN, & CITIZENS

(OF THE CITY OF MANCHESTER,)

(FOR WATER RENT, FOR TRADING PURPOSES.)

DATE		Readings of Meter	GALLONS	AMOUNT As per Printed Scale of Charges. £	s.	d.
Indication of Meter on the	*190*					
Do. on the	*190*					
Estimated Consumption from						
to						
Indication of Meter on the	*190*					
Do. on the	*190*					
Quantity of Water consumed						
Quarterly Charge for Hire of Meter						
Do.	*(Repairing do.)*					

Specimen

DISCOUNT OF 5 PER CENT. ALLOWED OFF ALL ACCOUNTS OF 10s. PER QUARTER AND UPWARDS, EXCLUSIVE OF CHARGE FOR HIRE AND REPAIR, IF PAID NOT LATER THAN

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND,

And you are requested to pay the same to Mr., *or at the Waterworks Offices, Town Hall*

(Cooper Street Entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the main forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF. (over.)

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

IMPORTANT.

CONSUMERS OF WATER BY METER ARE RESPONSIBLE FOR ALL WATER USED OR WASTED AFTER IT HAS PASSED THE METER, WHETHER SUCH WASTE BE CAUSED THROUGH BURST PIPES OR OTHERWISE: AND WITH THE VIEW OF DETECTING ANY WASTE OR UNDUE CONSUMPTION, IT IS SUGGESTED THAT FREQUENT READINGS OF THE METER BE TAKEN BY THE CONSUMER.

IN CASE THERE IS ANY STOPPAGE IN THE SUPPLY OR IN THE REGISTRATION OF THE METER IMMEDIATE NOTICE SHOULD BE GIVEN AT THE WATERWORKS OFFICES.

INFORMATION AS TO THE METHOD OF TAKING THE READINGS, &c., WILL, IF DESIRED, BE GIVEN BY THE METER READER WHEN HE CALLS.

Prog. No.

METER ACCOUNT.

M.....

..... *No.*..... *Street.*

TO THE LORD MAYOR, ALDERMEN, & CITIZENS

OF THE CITY OF MANCHESTER,

FOR WATER RENT, FOR TRADING PURPOSES.

	GALLONS.	AMOUNT As per Printed Scale of Charges. £	s.	d.
SUMMARY.				
Quarterly Charge for Hire and Repair of Meters.....				

Specimen.

DISCOUNT OF 5 PER CENT. ALLOWED OFF ALL ACCOUNTS OF 10s. PER QUARTER AND UPWARDS, EXCLUSIVE OF CHARGE FOR HIRE AND REPAIR, IF PAID NOT LATER THAN OCTOBER 31st.

THE WATER RENTS ARE DUE AND PAYABLE ON DEMAND,

And you are requested to pay the same to Mr. *or at the Waterworks Office, Town Hall*

(Cooper Street Entrance), between the hours of 9 and 4-30 o'clock, except on Saturdays, from 9 to 1 only.

The Corporation supply Water on the following Conditions, and subject to the several powers, remedies, penalties, and regulations comprised in the several Acts of Parliament passed for establishing the Waterworks:—1. No Water to be sold, given, or wasted, nor any other person permitted or suffered to take or use the same. 2. Every tenant is considered as bound one year, and subject to Three Months' Notice, in writing, commencing with any quarter after the expiration of the first year. 3. In case the premises supplied with water shall be altered, increased, or improved, or used for any other purpose than such as the water was first taken for, by which the annual value thereof shall be increased, or a greater consumption of water occasioned, an adequate increase shall be paid from the date that such alterations may have taken place. 4. The Corporation reserve the power of separating from the mains forthwith, and without previous notice, the service pipe of any tenant refusing or failing to comply with any of the preceding terms or conditions.

A Receipt must be given from the Official Receipt Books, as the Committee recognise no other.

N.B.—SEE LIST OF AUTHORIZED PLUMBERS AND WATERMEN ON THE BACK HEREOF. [over.

THIS NOTE MUST BE PRODUCED WHEN PAYMENT IS MADE.

All Applications or Complaints as to the Supply of Water must be made at the Waterworks Office, Town Hall.

☞ All communications respecting changes of residence or other matters relating to Water Accounts to be addressed to Mr. D. CHARLTON, Town Hall, and not to the Collectors, in order to avoid delay.

Prog. No..... District.....

Consumer's Name..... Maker of Meter..... Maker's No...

Description and Situation of Premises.....

Size of Meter..... Hired No....

METER INSPECTION BOOK.

Date of Reading.	Reading of Meter.	Differences of Readings.	Total Difference.	Amount.	Quarterly Charge for Hire of Meter.	Quarterly Charge for Repairing of Meter.	Total.	Discount if Account paid within the prescribed period.	Remarks.
	Gals.	Gals.	Gals.						Minimum Rental. £..... per quarter for .....gals Agreem't No..

Columns are here shown reduced, but in the original show necessary spaces for rulings.

DISTRICT..... TOWNSHIP.....

Half-year ending Sep. 30, 190 . Half-year ending March 31, 190 .

Progressive No.	No. on Door.	Name.	Description of Premises.	Pipe.	No. of Agreement.	Annual Water Rent.	Half-year's Rent, ending Sep. 30, 190 .	Composition if paid on or before June 30, 190 .	Date of Payment.	Amount Received.	Composition Allowed.	Amount Scheduled.	No. and Folio of Inspectors' Report Book.	Amount Transferred to Arrears.	No. and Folio of Special Inspection Book.	Amount of Rental taken off.	Half-year's Rent, ending March 31, 190 .	Composition if paid on or before Dec. 31, 190 .	Date of Payment.	Amount Received.	Composition Allowed.	Amount Scheduled.	No. and Folio of Inspectors' Report Book.	Amount Transferred to Arrears.	No. and Folio of Special Inspection Book.	Amount of Rental taken off.

Columns are here shown reduced, but in the original show necessary spaces for rulings.

TOWNSHIP..... DOMESTIC WATER RENTALS

FOR THE YEAR ENDING 31st MARCH, 190 .

Progressive No.	No. on Door.	Street.	Owner or Occupier.	Agreement.	Description of Premises.	Extra Closet.	Tubes.	Baths.	Annual Value.	Annual Water Rent.	Total Water Rent.	Composition if paid on or before 31st August.	Date of Payment.	Amount Received.	Composition Allowed.	Amount Scheduled.	No. and Folio of Inspector's Report Book.	Amount Transferred to Arrear Ledger.	Amount taken off.

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Township.....
District.....

PUBLIC WATER RATE, at ... Pence in the Pound.

Number in the Rate.			
Number on Door.			
Name of the Owner of the Property Rated.			
Name of Person Rated.			
Description and Situation of Property.			
Gross Annual Value.	£ s		
Full Net Annual Value.	£ s		
Amount of Public Rate.			
Nature of Supply.			
Rent per Week.			
Payments in Part.			
Receipts.			
Amount Remitted.			
Amount Transferred to Arrears.			

DOMESTIC WATER RATE, at ... Pence in the Pound.

Full Net Annual Value on	Cottages Assessed at £10 and under.	External Supply.	
		Internal Supply.	
	Weekly Property Assessed above £10.		
	Quarterly Houses Assessed above £10.		
Domestic Rate on	Cottages Assessed at £10 and under.		
	Weekly Property Assessed above £10.		
	Quarterly Houses Assessed above £10.		
Payments in Part.			
Receipts on	Cottages Assessed at £10 and under.		
	Weekly Property Assessed above £10.		
	Quarterly Houses Assessed above £10.		
Composition.			
Amount Remitted.			
Amount Transferred to Arrears.			
Folio of Inspector's Report Book.			
Folio of Collector's Vouchers.			

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Township.....
District.....

WATER-METER RENTAL BOOK FOR THE YEAR 1902.

	Folio of Special Inspection Book.	
Amount of Rental actually charged for the 9 months for	Domestic Purposes.	
	Warehouses, Shops, Offices, &c.	
	Manufacturing Purposes.	
For the Quarter ending December.	Amount Transferred to Arrears.	
	Amount Scheduled.	
	Amount Received.	
	Date Paid.	
	Discount Allowed.	
	Charge.	
	Quantity of Water Supplied in Gallons.	
	Quarter Ending.	
For the Quarter ending September.	Amount Transferred to Arrears.	
	Amount Scheduled.	
	Amount Received.	
	Date Paid.	
	Discount Allowed.	
	Charge.	
	Quantity of Water Supplied in Gallons.	
	Quarter Ending.	
For the Quarter ending June.	Amount Transferred to Arrears.	
	Amount Scheduled.	
	Amount Received.	
	Date Paid.	
	Discount Allowed.	
	Charge.	
	Quantity of Water Supplied in Gallons.	
	Quarter Ending.	
For the Quarter ending March.	Amount Transferred to Arrears.	
	Amount Scheduled.	
	Amount Received.	
	Date Paid.	
	Discount Allowed.	
	Charge.	
	Quantity of Water Supplied in Gallons.	
	Quarter Ending.	
Quarterly	Repair of Meter.	
	Hire of Meter.	
	Analysis of Supply.	
	Number of Agreement.	
	Minimum Rental per Quarter.	
	Description of Premises.	
	Name.	
	Number on Door.	
	Progressive Number.	

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Appendix C—Exhibit 4.

REPORT.

The Waterworks Committee present the following report:—

Revenue Account.

Your Committee submit a statement of Receipts and Payments from the 1st April, 1901, to the 31st March, 1902 (Appendix A); a Revenue Account Balance Sheet on the 31st March, 1902 (Appendix B); a Profit and Loss Account for the same period (Appendix C); and an Estimate of the Income and Expenditure for the year ending on the 31st March, 1903 (Appendix D).

Capital Account.

Your Committee also submit a statement of Receipts and Payments on Capital Account from 1st April, 1901, to 31st March, 1902 (Appendix E); a Capital Account Balance Sheet, showing the amount of money borrowed under the several Acts of Parliament, as well as the total amount expended in connection with the old and new works (Appendix F); and a statement of the Estimated Expenditure on Capital Account during the year ending on the 31st March, 1903 (Appendix G).

Sinking Fund Accounts.

Your Committee also submit statements of Receipts and Payments on the Sinking Fund Accounts (Appendix H) from the 1st April, 1901, to the 31st March, 1902.

Water Rates, 1902-3.

Your Committee recommend the Council to make and levy a domestic Water Rate of 8d. in the pound and a Public Water Rate of 1d. in the pound upon all property assessable thereto for the purpose of raising the amount required for payment of the expenses connected with the supply of water within the City during the year commencing on the 1st April, 1902.

The amount of estimated available rates outstanding on the 31st March last out of a gross sum of £49,000 was £29 17s. 5d.; and of rentals £108 13s. 11d. out of a gross sum of £236,000.

Inspection of Water Rates and Rentals.

10,764 cases of inspection of Water Rates have been examined by the Inspector and his assistants during the year, and such cases have been subsequently dealt with by the Sale, Supply, &c., Sub-Committee.

7,149 cases of Water Rentals have also been disposed of in the same manner.

Testing and Stamping Water Fittings.

During the year, 97,601 taps and other fittings have been submitted for examination, and upon being tested 95,915 have been approved and stamped.

844 meters have also been tested during the same period.

Inspection of Internal Water Fittings.

The water fittings in 36,919 houses and other premises have been inspected, and where necessary have been repaired in accordance with the regulations of the Committee.

Renewal of Piping.

4 miles of new iron piping have been laid on Renewals Account (Appendix I).

Extension of Mains and Service Mains.

9¾ miles of iron piping have been laid in extensions in various townships (Appendix J).

Connections have also been made to 4,994 additional houses and other premises by means of over 4 miles of service piping, at an expense of £1,251 11s. 1d.

Longdendale Works.

These works have been maintained in an efficient condition.

The new settling pool at Arnfield and pipe for supplementing the watercourse have been completed and are working satisfactorily, and your Committee have on frequent occasions been thereby enabled to convey an additional quantity of water from Longdendale to the service reservoirs at Godley, Denton, Audenshaw, and Gorton, and thence to Manchester.

The cleaning out of the 36-inch main from Denton to Gorton, which has been laid about 50 years, has been completed, and the deposit found therein has been removed. The line of 30-inch main recently laid between Godley and Audenshaw, under the powers of the Manchester Corporation Act, 1897, is being extended to Bradford for the purpose of supplementing the supply of water to that district, rendered necessary for the supply required at the new Electricity Station in Stuart Street. A new 18-inch main is also being laid from Rusholme to Chorlton-cum-Hardy for the purpose of improving the supply in the districts lying to the south of the City, where building operations have been, and still are, very extensive.

Thirlmere Works.

The works have been maintained in satisfactory condition, and considerable progress has been made in repairing defects in the aqueduct.

The supply during the year from this source has been, on the average, 8,353,284 gallons per day.

The following contracts in connection with the second line of pipes have been let, and the work of laying has been commenced:—

Contract No. 1.—Cast-iron pipes, &c., 44 and 40 inches diameter. The Widnes Foundry Company. Amount paid during the year, £26.620.

Contract No. 2.—Cast-iron pipe, &c., 44 inches diameter. The Staveley Coal and Iron Company Limited. Amount paid during the year, £20,725.

Contract No. 3.—Cast-iron pipes, &c., 44 inches diameter. Messrs. Macfarlane, Strang, and Company Limited. Amount paid during the year, £14,730.

Contract No. 4.—Cast-iron pipes, &c., 44 and 48 inches diameter. Messrs. D. Y. Stewart and Company. Amount paid during the year, £6,370.

Contract No. 6.—Syphon outlets. Messrs. J. Blakeborough and Sons. Amount paid during the year, £308 8s.

Contract B.—Laying and pointing of the Southern section of pipes, Prestwich to Longridge. Messrs. Monk and Newell.

Contract No. 5.—Welded steel pipes and collars. Messrs. Thomas Piggott and Company Limited.

Contract No. 12.—Bolts, nuts and washers. Messrs. Blakemore and Company Limited.

Contract A.—Laying and jointing of the Northern section of pipes, Garstang to Ambleside. Messrs. Fisher and Le Fanu.

Supply of Water.

Your Committee much regret that owing to a decrease in the normal rainfall during the spring and summer months of the past year, and also a large increase in the demand for water, they were compelled, in the interests of the consumers, to cut off the supply during a portion of the night, from the 21st July to the 21st November, when the full supply was again resumed.

Every available means have been adopted to store as much water as possible for the ensuing summer in order to prevent, if possible, a recurrence of last year's experience.

Hydraulic Power Supply.

This supply, which has been efficiently maintained, continues to make steady progress.

During the year connections have been made to 37 additional premises, giving supply to 155 additional machines.

The power is now supplied to 422 premises, containing 1,600 machines. These comprise hoists, cranes, presses, motors, injector hydrants, etc.

The average weekly output of power water for the year is 3,473,204 gallons.

The total length of hydraulic mains now laid is 16 miles 1,234 yards, being an extension of 973 yards for the year.

There are now ten sets of pumping engines installed, and tenders have been invited for two sets of additional engines to be erected at Pott Street Station. These will complete the installation at that Station. It has also been decided to lay an additional trunk main connecting Pott Street Station to the trunk mains from Whitworth Street West Station.

On behalf of the Committee,

Town Hall, Manchester,
24th April, 1902.

J. J. HARWOOD,
Chairman.

LEDGER PAGES.

[Appendix

STATEMENT OF RECEIPTS AND PAYMENTS

Dr. *From 1st April, 1901,*

	Receipts.			£	s.	d.
To Public Water Rate—1900-1 (arrears)				7	16	9
„ Domestic „ „ (do.)				38	7	2
„ Trade Rentals „ (do.)				126	1	10
	Within the City.		Beyond the City.			
„ Public Water Rate—1901-2 ...	£13107 17 3					
„ Domestic ditto 1901-2 ...	36005 15 7					
	49113 12 10					
„ Receipts for water supplied through **Meters**:—						
Hydraulic Pressure	20561 11 3					
For Manufacturing purposes	51504 15 2		19049 3 3			
To Warehouses, Shops, Offices, &c.	21883 18 6		2694 12 10			
„ Receipts for water supplied to Warehouses, Shops, Offices, &c., at **Fixed Rentals**	17789 0 6		5527 15 8			
„ Receipts for water supplied for Domestic purposes...	.....		58118 2 2			
„ Receipts for water supplied to Corporations, Local Authorities, and Private Companies	.....		38696 16 6			
	£160852 18 3		£124086 10 5	= 284939	8	8
„ Meter Rents				3143	0	0
„ House, Farm, and Chief Rents				4060	19	11
„ Rental Deposits received				494	7	0
„ Miscellaneous Receipts.....				82	7	5
„ Bankers' and other Interest.....				2590	17	2
„ Balance owing Bankers, 31st March, 1902 ...			£93137 17 4			
Less amount in the hands of the City Treasurer			235 18 3			
				92901	19	1

D. Charlton,
Financial Superintendent.

£388385 5 0

THE UNIVERSITY

A.]
ON THE WATERWORKS REVENUE ACCOUNT
to 31*st March*, 1902.

Cr.

PAYMENTS.	£	s.	d.	£	s.	d.
By Balance owing Bankers, 31st March, 1901 ...	67422	17	9			
Less Amount in the hands of the City Treasurer ...	343	16	10			
				67079	0	11
„ Dividends on Stock, Interest, and Annuities ...				168642	5	1
„ Chief and other Rents ...				5620	2	4
„ Rates, Taxes, Tithes, &c. ...				25631	6	9
„ Sinking Fund—1879 Act (Thirlmere) ...	£18076	10	3			
„ —1891 Act (Hydraulic Pressure)	1528	16	8			
„ „ „ (General Purposes).	1153	18	2			
„ —1893 Order (Longdendale) ...	23401	15	5			
„ —1897 Act (Hydraulic Pressure)	837	16	11			
„ „ „ (General Purposes).	304	9	6			
				45303	6	11
„ Rent of Offices ...				2447	8	5
„ Materials, Contracts, Wages, and Expenses connected with the Maintenance of Works, as follows:—						
Woodhead Reservoir ...	£519	0	6			
Torside Reservoir ...	469	7	2			
Rhodes Wood Reservoir ...	254	4	7			
Vale House and Bottoms Reservoirs ...	1328	17	7			
Watercourses and Tunnels ...	4402	2	11			
Arnfield, Hollingworth, and Auxiliary Reservoirs ...	629	16	5			
Godley Reservoir ...	2213	1	7			
Denton Reservoirs ...	1582	15	1			
Gorton Reservoirs ...	468	12	4			
Audenshaw Reservoirs ...	706	12	4			
Prestwich Reservoirs ...	333	12	1			
Repairs and Alterations of Houses and Farm Buildings ...	900	13	6			
Repairs & Renewals of Mains & Piping:—						
Renewals and Repairs.. £12090 13 6						
Wages of Surveyors ... 640 1 6						
„ Inspectors of Mains ... 1559 16 10						
„ Watermen ... 3024 17 9						
Hyde Road Pipe Yard.. 1499 10 1						
	18814	19	8			
Hydraulic Pumping Stations ...	7827	14	4			
Clothing for Reservoir Keepers, Inspectors, &c. ...	546	7	9			
Miscellaneous Expenses connected with the Works ...	502	9	7			
Thirlmere Aqueduct ... £4376 16 8						
„ Estate, &c. ... 1237 15 0						
	5614	11	8			
	47114	19	1			
Settling Pools and Main at Longdendale...	3424	5	4			
				50539	4	5
„ Wages in connection with the general business of the Department ...				7799	6	7
„ Salaries ...				6930	19	8
„ Collection of Water Rates and Rentals ...				3329	11	5
„ Printing, Stationery, and Advertising ...				1365	18	6
„ Law Charges, Stamps, and Expenses borrowing money ...				1526	16	2
„ Rental Deposits repaid ...				273	11	7
„ Contribution to Thrift Fund ...				380	17	1
„ Miscellaneous Expenses ...				1364	17	4
„ Bankers' Commission ...				150	11	10
				£388385	5	0

[Appendix

WATERWORKS REVENUE ACCOUNT

31st

Liabilities.	£ s. d.	£ s. d.
Bankers:—		
Owing Bankers		93137 17 4
Sundry Creditors:—		
Chief and other Rents	239 8 0	
Various Accounts unpaid	5553 8 6	
Rental Deposits in hand	1891 15 9	
Interest, Annuities, and Dividends owing to 31st March, 1903	22620 7 1	
		30304 19 4

D. Charlton,
Financial Superintendent.

£123442 16 8

B.]

BALANCE SHEET.

March, 1902.

ASSETS.	£	s.	d.	£	s	d.
Treasurer:—						
In Treasurer's hands				235	18	3
Stocks on hand:—						
Amount of Stock on hand (including Pipes, Meters, and other Materials)				61135	0	0
Sundry Debtors:—						
Public Rate outstanding	4	6	6			
Domestic ditto	25	10				
Trade Rentals ditto	108	13	11			
Estimated Amount owing for Water consumed by Meter to 31st March, 1902	37098	16	10			
Ditto ditto Hydraulic Pressure	5535	15	2			
Meter Rents	801	8	4			
House, Farm, and Chief Rents	1740	8	3			
Plumbing Accounts outstanding, Materials sold, &c.	1347	14	0			
Bankers' and other Interest	776	10	0			
				47439	3	11
				108810	2	2
Profit and Loss Account:—						
Deficiency for the year ending 31st March, 1902 (see Appendix C)	24147	11	9			
Less Surplus at 31st March, 1901	9514	17	3			
Net Deficiency				14632	14	6
				£123442	16	8

[Appendix

MANCHESTER CORPORATION WATERWORKS—

For the Year ending

Year ending 31st March, 1901. £	*Dr.*	£ s. d.	£ s. d.
5616	To Chief and other Rents		5621 17 3
25112	„ Rates, Taxes, and Tithes		25631 13 2
	„ Materials, Contracts, Wages, and Expenses connected with the Maintenance of Works, as follows:—		
232	Woodhead Reservoir	515 0 6	
377	Torside Reservoir	480 13 6	
631	Rhodes Wood Reservoir	253 4 7	
861	Vale House and Bottoms Reservoirs	1972 14 9	
1706	Watercourses and Tunnels	4402 2 11	
416	Arnfield, Hollingworth, and Auxiliary Reservoirs	638 16 5	
452	Godley Reservoir	2441 11 5	
234	Denton Reservoirs	1595 6 1	
413	Gorton Reservoirs	451 0 9	
576	Audenshaw Reservoirs	701 2 9	
225	Prestwich Reservoirs	351 8 8	
601	Repairs and Alterations of Houses and Farm Buildings	885 0 4	
	Repairs and Renewals of Mains and Piping:		
3022	Renewals 2232 15 5		
2595	Repairs 7700 11 9		
628	Wages of Surveyors 640 1 6		
1349	„ Inspectors of Mains 1559 16 10		
2114	„ Watermen 3024 17 9		
1540	Hyde Road Pipe Yard 1499 10 1		
		16657 13 4	
7010	Hydraulic Pumping Stations	7601 2 5	
541	Clothing for Reservoir Keepers, Inspectors, and Watermen	546 18 7	
678	Miscellaneous Expenses connected with the Works	537 1 7	
3281	Thirlmere Aqueduct	4060 18 5	
1401	„ Estate, &c.	1051 16 3	
		45143 13 3	
30675			
34391	Settling Pools and Main at Longdendale.	4065 5 4	
			49208 18 7
7412	„ Wages in connection with the general business of the Department		7799 6 7
	„ Salaries as follows, viz.:—		
	Daniel Charlton, Financial Superintendent	£500 0 0	
	William Blackstock, Secretary	454 3 4	
	Joseph Haynes, General Surveyor of Water Mains	550 0 0	
	J. W. Jones, Engineer's Principal Assist.	310 0 0	
	Alfred Neill, Assistant Financial Superintendent	340 0 0	
	Frank J. Mountain, Inspector of Rates and Rentals	260 0 0	
	Charles E Warburton, Mortgage, &c., Clerk	220 0 0	
	James W. Broadley, Examiner of Fittings	200 0 0	
	Chas. E. Stracy, Assistant Secretary	220 0 0	
	Thomas Tinker, Assistant General Surveyor of Water Mains	250 0 0	
	H. G. Williamson, Surveyor in the Mains Department	200 0 0	
	Wm. H. Taylor, Surveyor, Estate Department	221 13 4	
	Frederick Dyer, General Inspector of Service Fittings	250 0 0	
	Matthew G. Shaw, Chief Rate Clerk	230 0 0	
	Isaac H. Whitehead, Office Receiver	250 0 0	
	William Scholfield, Assistant General Inspector of Service Fittings	190 16 8	
	Carried forward	4666 13 4	57008 5 2 31253 10 5

C.]

PROFIT AND LOSS ACCOUNT.

31*st March*, 1902.

Year ending 31st March, 1901.			Within the City	Beyond the City	*Cr:*
£	£		£ s. d.	£ s. d.	£ s. d.
12619		By Public Water Rate	13114 3 8	.....	
35699		„ Domestic ditto	36045 18 4	.....	
48318			49160 2 0		
		„ Receipts for Water supplied through **Meters**:—			
19110		Hydraulic Pressure	21121 16 5	.....	
53741	18833	For Manufacturing purposes	51340 17 10	19707 1 0	
22653	2542	To Warehouses, Shops, Offices, &c.	21611 16 10	2731 2 2	
		„ Receipts for Water supplied to Warehouses, Shops, Offices, &c., at **Fixed Rentals**	17838 3 4	5574 10 1	
17089	5493	„ Receipts for Water supplied for Domestic purposes	.....	58156 11 2	
	55986	„ Receipts for Water supplied to Corporations, Local Authorities, and Private Companies	.....	38333 16 7	
	41180				
160911	124034		£161072 16 5	124503 1 0	=285575 17 5
284945					
3069		„ Meter Rents		3172 19 4	
4245		„ House, Farm, and Chief Rents		4089 4 7	
128		„ Miscellaneous Receipts		89 18 4	
3995		„ Bankers' and other Interest		2590 17 2	
					9942 19 5
£296382		Carried forward			£295518 16 10

PROFIT AND LOSS

Year ending 31st March, 1901 £	Dr.	£ s. d.	£ s. d.	£ s. d.
	Brought forward	4666 13 4	57008 5 2	31253 10 5
	James Platts, Assistant Bookkeeper	190 16 8		
	Edwin Bake, Chief Clerk in the General Surveyor of Water Mains' Department	200 0 0		
	S. Fairbrother, Inspector of Longdendale Works	252 10 0		
	William Thomas, Correspondence, &c., Clerk in the General Surveyor of Water Mains' Department	181 13 4		
	John E. Belshaw, Assistant Office Receiver	190 0 0		
	Sydney Nield, Surveyor in the Mains' Department	165 3 0		
	William Benton, Inspector of Tairlmere Works	184 3 4		
	L. Holme Lewis, Engineer and Manager of the Hydraulic Power Supply	550 0 0		
	George H. Hill, Engineer	350 0 0		
6284			6930 19	
	To Collection of Rates and Rentals as follows:—			
	John Williams	270 0 0		
	William Hopper	238 11 11		
	James Heaps	230 0 0		
	Thomas Williams	220 0 0		
	John L. W. Miles	220 0 0		
	Ishmael Lythgoe	220 0 0		
	William Butler	220 0 0		
	Henry Hodge	220 0 0		
	William Fildes	220 0 0		
	William Chambers	200 0 0		
	J. J. R. Lucas	200 0 0		
	John J. Sapsford	185 0 0		
	Thomas Hobson	170 0 0		
	T. C. Goodman	165 0 0		
	J. W. Sullivan	160 0 0		
	Henry Bower (portion of year)	120 0 0		
	G. Hepplestone do.	59 16 0		
	Poundage on Additionals	11 3 6		
3223			3329 11 5	
1228	„ Printing, Stationery, and Advertising		1376 19 10	
1773	„ Law Charges, Stamps, and Expenses borrowing Money.		1554 18 4	
2447	„ Rent of Offices		2447 8 5	
366	„ Contribution to Thrift Fund		380 17 1	
983	„ Miscellaneous Expenses		1425 15 10	
208	„ Bankers' Commission		150 11 10	
				74605 7 7
176467	„ Balance carried down			189659 18 10
£296382				£295518 16 10
	To Dividends upon Corporation Perpetual Annuities		£1345 10 3	
	„ Interest upon Corporation Waterworks Loans, 1854 Act		5481 16 7	
	„ Ditto ditto ditto	1860 „	118 16 0	
	„ Ditto ditto ditto	1865 „	202 19 2	
	„ Ditto ditto ditto	1867 „	81 18 11	
	„ Ditto ditto ditto	1869 „	33 7 7	
	„ Ditto ditto ditto	1875 „	385 2 8	
	„ Ditto ditto ditto	1879 „	37517 12 11	
	„ Ditto ditto ditto	1882 „	601 15 7	
	„ Ditto ditto ditto	1891 „	6756 18 5	
	„ Ditto ditto ditto	1893 Order	7218 15 9	
	„ Ditto ditto ditto	1897 Act	2991 13 10	
	„ Consolidated Stock Dividends		91786 19 3	
	„ Interest upon Temporary Loans		1180 8 8	
	„ Life Annuities at Old Rates	£9107 4 10		
	„ Terminable ditto	100 11 3		
	„ Life Annuities at New Rates	3618 10 4		
	„ Terminable ditto	24 1 8		
			12850 8 1	
164752				168504 3 8
	„ Sinking Fund Account—1879 Act (Thirlmere)		18076 10 3	
	„ Ditto ditto 1891 Act (Hydraulic Pressure) ..		1528 16 8	
	„ Ditto ditto „ „ (General Purposes) ...		1153 18 2	
	„ Ditto ditto 1893 Order (Longdendale)		23401 15 5	
	„ Ditto ditto 1897 Act (Hydraulic Pressure)		837 16 11	
	„ Ditto ditto „ „ (General Purposes) ...		304 9 6	
43978				45308 6 11
				£213807 10 7

ACCOUNT—*Continued*

Year ending 31st March, 1901		Cr. £ s. d.
£ 296382	Brought forward	295518 16 10
£296382		£295518 16 10
174467	By Amount brought down	189659 18 10
32268	„ Balance, being Deficiency for the year (see Appendix B)	24147 11 9
		£213807 10 7

D. CHARLTON,
Financial Superintendent.

[Appendix

MANCHESTER CORPORATION WATERWORKS—

Dr. *For the Year ending*

ESTIMATED INCOME.	Within the City £ s. d.	Beyond the City £ s. d.	Total £ s. d.
To the Public Rate of 1d. in the pound, less ¼ per cent. for loss in collection	13000 0 0		
„ the Domestic Rate of 6d. in the pound, less 20 per cent. for composition on weekly property, and 5 per cent. for empties and loss in collection on quarterly property	36000 0 0		
	49000 0 0		
Estimated Receipts for Water supplied :—			
Through Meters.			
Hydraulic Pressure	22000 0 0		
For Manufacturing purposes	53000 0 0	13000 0 0	
To Warehouses, Shops, Offices, &c.	22000 0 0	2500 0 0	
At Fixed Rentals.			
To Warehouses, Shops, Offices, &c.	17500 0 0	5500 0 0	
„ Estimated Receipts for Water supplied for Domestic purposes, after allowing for composition on weekly property, and 5 per cent. for empties and loss in collection on quarterly property		58000 0 0	
„ Estimated Receipts for Water supplied to Corporations, Local Authorities, and Private Companies		41000 0 0	
	2163500 0 0	126000 0 0 =	289500 0 0
„ Meter Rents		3000 0 0	
„ House, Farm, and Chief Rents		4000 0 0	
„ Miscellaneous Receipts		300 0 0	
„ Bankers' and other Interest		2000 0 0	
			9300 0 0
„ Deficiency at 31st March, 1902, brought forward		14632 14 6	
Add Estimated Deficiency for the year 1902-3		10144 6 3	
			24777 0 9

D. CHARLTON.
Financial Superintendent.

£323577 0 9

D.]

ESTIMATE OF INCOME AND EXPENDITURE.

31*st March*, 1903. *Cr.*

ESTIMATED EXPENDITURE.

	Debt £ s. d.	£ s. d.	£ s. d.
By Deficiency to 31st March, 1902			14632 14 4
„ Perpetual Annuities	33531 19 5	1342 9 7	
„ Interest on Loans under the Acts of 1854 to 1897, viz.:— £350 at 2½ per cent.; £5,051 at 2¼ per cent.; £44,522 at 2⅝ per cent.; £260,909 10s. 2d. at 2¾ per cent.; £359,048 19s. 9d. at 2⅞ per cent.: £360,735 17s 6d. at 3 per cent.; £289,563 at 3⅛ per cent.; £165,035 at 3¼ per cent.; £52,288 at 3⅜ per cent.; £604,688 0s. 10d. at 3½ per cent.; £3,864 9s. 9d. at 4 per cent.; and £2,000 at 4¼ per cent.	2147550 18 0	67183 14 4	
„ Dividends on Corporation Consolidated Stock, viz.:— £997,480 at 3 per cent.; £65,679 at 3½ per cent.; and £1,483,438 5s. 6d. at 4 per cent.	2546597 5 6	91560 13 11	
„ Interest upon Temporary Loans	500 0 0	20 0 0	
„ Life Annuities at Old Rates	206589 18 1	8065 14 1	
„ Terminable „ „	3121 8 6	91 0 11	
„ Life Annuities at New Rates	80343 11 4	2724 19 2	
„ Terminable „ „	683 7 2	19 15 2	
„ Interest on amounts to be hereafter borrowed	.....	3000 0 0	
	£5018918 3 0		174008 7 2

	Sum to be set apart £ s. d.	Interest at 3 °/₀ on present Fund £ s. d.	£ s. d.	£ s. d.
„ Sinking Fund Account:—				
Act of 1879 (Thirlmere)	14124 11 4	5137 16 11	19262 8 3	
Act of 1891 (Hydraulic Pressure)	1143 8 7	431 5 6	1574 14 1	
„ „ (General Purposes)	919 19 0	268 11 6	1188 10 6	
Order of 1893 (Longdendale)	17858 11 9	6247 14 2	24106 5 11	
Act of 1897 (Hydraulic Pressure)	793 12 3	69 7 5	862 19 8	
„ „ (General Purposes)	295 12 1	18 0 2	313 12 3	
	£35135 15 0	£12172 15 8		47308 10 8
„ Chief and other Rents				5500 0 0
„ Rates, Taxes, and Tithes				15000 0 0
„ Materials, Contracts, Wages, and Expenses connected with the Maintenance of Reservoirs, Conduits, and Piping	16000 0 0			
„ Hydraulic Pumping Stations	7000 0 0			
„ Renewal of Mains	5000 0 0			
„ Maintenance of Thirlmere Aqueduct, &c.	5000 0 0			
			33000 0 0	
„ Wages in connection with the general business of the department			7500 0 0	
„ Salaries			7000 0 0	
„ Collection of Water Rates and Rentals			3300 0 0	
„ Printing, Stationery, and Advertising			1300 0 0	
„ Law Charges, Stamps, and Expenses Borrowing Money			1500 0 0	
„ Rent of Offices			2447 8 5	
„ Contribution to Thrift Fund			380 0 0	
„ Miscellaneous Expenditure			500 0 0	
„ Bankers' Commission			200 0 0	
				57127 8 5
				£323577 0 9

[Appendix

STATEMENT OF RECEIPTS AND PAYMENTS

From 1st April, 1901, to

Dr.	RECEIPTS.							
		Folio	£	s.	d.	£	s.	d.
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book H (folio 2)...						75753	2	0
,, Loans under Act of 1879		(8)	204136	8	6			
,, ,, ,, ,, 1891 (General Purposes)		(12)	14000	0	0			
,, ,, ,, ,, 1891 (Hydraulic Pressure)		(15)	8936	0	0			
,, ,, ,, Order of 1893		(21)	45083	0	0			
						272155	8	6
						£347908	10	6

D. CHARLTON,
Financial Superintendent.

E.]

ON THE WATERWORKS CAPITAL ACCOUNT.

31*st March*, 1902.

Payments.	Folio	£	s.	d.	£	s.	d.
By Loans under Act of 1854 repaid ...	(137)	1950	0	0			
" " " 1867 " ...	(144)	500	0	0			
" " " 1875 " ...	(146)	100	0	0			
" " " 1879 " ...	(155)	41481	0	0			
" " " 1882 " ...	(170)	300	0	0			
" " " 1891 (General Purposes) "	(181)	14000	0	0			
" " " 1891 (Hydraulic Pressure) "	(184)	5000	0	0			
" " " 1897 (General Purposes) "	(193)	500	0	0			
" " " 1897 (Hydraulic Pressure) "	(192)	4573	0	0			
" " Order of 1893 repaid ...	(198)	1320	0	0			
" Temporary Loans repaid	(186)	50000	0	0			
" Repurchase of Perpetual Annuity	(205)	400	0	0			
					120124	0	0
" Extension of Mains within and beyond the limits of the City ...	(135)	8967	2	11			
" Purchase of Land &c.	(110)	732	11	1			
					9699	14	0
" Hydraulic Pressure :—							
Works and Mains	(133)				1553	19	1
" Thirlmere :—							
Second Line of Pipes.....	(89)	78279	9	3			
Settling Pool	(88)	1865	7	2			
Purchase of Land &c.....	(106)	1240	11	4			
					81385	7	9
" Annuity Capital Redeemed	(211)				(a) 24248	7	3
					237011	8	1
" Balance in Bankers' hands, 31st March, 1902, as per Cash Book H (folio 62)					110897	2	5
					£347908	10	6

(a)

		£	s.	d.
Life,	Old Rates.....	15566	5	8
Terminable,	.....	270	16	11
Life,	New Rates	8212	14	9
Terminable,	"	198	9	11
		£24248	7	3

[Appendix

WATERWORKS CAPITAL ACCOUNT

31*st March*,

LIABILITIES.

	£	s.	d.	£	s.	d.
Loans, Consolidated Stock, and Annuity Fund:—						
Outstanding Loans, &c., at date:—						
Four per Cent Perpetual Annuities				33531	19	5
Loans under the 1854 Act				180819	15	4
Ditto ditto 1860 „				3900	0	0
Ditto ditto 1865 „				6088	8	6
Ditto ditto 1867 „				650	0	0
Ditto ditto 1869 „				1050	0	0
Ditto ditto 1875 „				12333	0	0
Ditto ditto 1879 „				1349615	13	3
Ditto ditto 1882 „				19652	3	2
Ditto ditto 1891 „ (Hydraulic Pressure)	84555	0	0			
Ditto ditto 1891 „ (General Purposes)	140938	0	0			
				225493	0	0
Ditto ditto 1893 Order				247854	5	7
Ditto ditto 1897 Act (Hydraulic Pressure)	52946	0	0			
Ditto ditto 1897 „ (General Purposes)	47148	12	2			
				100094	12	2
Consolidated Stock				2546597	5	6
Net Annuity Fund (see Analysis at foot)				290738	0	1
				5018418	3	0
Sundry Creditors:—						
Temporary Loans				500	0	0
				5018918	3	0

Sinking Fund:—

	Balance at 31st March, 1901			Transferred from Revenue during year ending 31st March, 1902			Realized by the sale of Land, &c.			Total Sinking Fund, 31st March, 1902			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Acts 1847-82—Longdendale	924265	2	2	.....			.....			924265	2	2	
Act 1879—Thirlmere	153184	19	3	18076	10	3	.....			171261	9	6	
Act 1891—Hydraulic Pressure	12846	15	4	1528	16	8	.....			14375	12	0	
Act 1891 — General Purposes	7798	5	0	1153	18	2	.....			8952	3	2	
Order 1893 — Longdendale	184772	12	7	23401	15	5	82	10	0	208256	18	0	
Act 1897—Hydraulic Pressure	1474	8	8	837	16	11	.....			2312	5	7	
Act 1897 — General Purposes	295	13	6	304	9	6	.....			600	3	0	
	1284637	16	6	45303	6	11	82	10	0				1330023 13 5
													£6348941 16 5

F.]

BALANCE SHEET.

1902.

ASSETS.

	£	s.	d.	£	s.	d.
Cost of Works:—						
Cost of Old Company's Works after deducting Sale of Land, Materials, and Plant	533561	8	2			
Cost of Works at Longdendale, &c.	2727305	3	4			
Cost of Thirlmere Works	2782842	13	9			
Cost of Works for Hydraulic Pressure	156929	11	9			
				6200638	17	0
Bank Balances:—						
Cash in Bank on Construction Account	110897	2	5			
Ditto Sinking Fund Account	2655	13	11			
				113552	16	4
Total Assets...				6314191	13	4
Balance, being the difference between the Purchase Moneys of 4 per cent. Consolidated Stock redeemed and the nominal value of such Stock				34750	3	1
				£6348941	16	5

D. CHARLTON,
Financial Superintendent.

ANALYSIS OF ANNUITY FUND.

Description of Annuities	Consideration Money for						Total received for Annuities			Capital redeemed			Net Annuity Fund		
	Annuities in existence			Annuities extinguished											
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Life—Old Rates	315578	15	2	1007447	6	2	1323026	1	5	1116436	3	4	206589	18	1
Terminable „	7026	15	3	43661	11	7	50688	6	10	47567	3	4	3121	3	6
Life—New Rates	148702	3	6	171411	19	7	320114	3	1	229770	11	9	90343	11	4
Terminable „	2750	1	8	11270	6	5	14020	8	1	13337	0	11	683	7	2
£	474057	15	8	1233791 *	3	9	1707848	19	5	1417110	19	4	290736	0	1

* £33,199 3s. 7d. extinguished during the year ending 31st March, 1902.

[Appendix

MANCHESTER CORPORATION WATERWORKS—ESTIMATE OF

During the Year ending

Dr. RECEIPTS.

	£	s.	d.
To Cash in hand 1st April, 1902, on Construction Account	110897	2	5
„ „ „ „ „ on Sinking Fund Account	2655	13	11
„ Amount payable by Revenue to Sinking Fund	47308	10	8
	160861	7	0
Balance to be provided for	605056	17	9

D. CHARLTON,

Financial Superintendent.

£765918 4 9

G.]

RECEIPTS AND PAYMENTS ON CAPITAL ACCOUNT.

31*st March*, 1903.

PAYMENTS.		Cr.	
	£	s.	d.
By Extension of Mains within and beyond the limits of the City	10000	0	0
„ Thirlmere Aqueduct—Second Line of Pipes	300000	0	0
„ Annuity Capital Redeemed	22000	0	0
„ Mortgages coming due	433918	4	9
	£765918	4	9

[Appendix

STATEMENT OF RECEIPTS AND PAYMENTS

From 1st April, 1901, to

Dr.

Receipts.	Folio.	£ s. d.
Act of 1879		
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book G, folio 246		2656 18 7
„ Revenue Account	(300)	18076 10 3
		£20733 8 10
Act of 1891		
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book G, folio 274		3391 15 4
„ Revenue Account	(297)	1528 16 8
		£4920 12 0
Act of 1891		
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book G, folio 274		976 5 0
„ Revenue Account	(298)	1153 18 2
		£2130 3 2
Order of 1893		
To Revenue Account	(294)	23401 15 5
„ Sale of Land in Longdendale	(„)	82 10 0
		£23484 5 5
Act of 1897		
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book G, folio 274		1474 8 8
„ Revenue Account	(295)	837 16 11
		£2312 5 7
Act of 1897		
To Balance in Bankers' hands, 31st March, 1901, as per Cash Book G, folio 274		295 13 6
„ Revenue Account	(296)	304 9 6
		£600 3 0

D. Charlton,
Financial Superintendent.

H.]

ON WATERWORKS SINKING FUND ACCOUNTS.

31*st March*, 1902.

(Thirlmere).

PAYMENTS.	Folio.	Cr. £	s.	d.
By Repurchase of £15,753 8s. 4d. Four per cent. Consolidated Stock	(319)	20700	8	8
„ Balance in Bankers' hands, 31st March, 1902, as per Cash Book G, folio 248		33	0	2
		£20733	8	10

(Hydraulic Pressure).

By Loans under the Act of 1891 (Hydraulic Pressure) repaid	(323)	3478	0	0
„ Balance in Bankers' hands, 31st March, 1902, as per Cash Book G, folio 276		1442	12	0
		£4920	12	0

(General Purposes).

By Loans under the Act of 1891 (General Purposes) repaid	(326)	1175	0	0
„ Balance in Bankers hands, 31st March, 1902, as per Cash Book G, folio 276		955	3	2
		£2130	3	2

(Longdendale).

By Repurchase of £17,728 6s. 2d. Four per cent. Consolidated Stock	(311)	23401	15	5
„ Balance in Bankers' hands, 31st March, 1902, as per Cash Book G, folio 276		82	10	0
		£23484	5	5

(Hydraulic Pressure).

By Loans under the Act of 1897 (Hydraulic Pressure) repaid	(209)	2220	0	0
„ Balance in Bankers' hands, 31st March, 1902, as per Cash Book G, folio 276		92	5	7
		£2312	5	7

(General Purposes).

By Loans under the Act of 1897 (General Purposes) repaid	(321)	550	0	0
„ Balance in Bankers' hands, 31st March, 1902, as per Cash Book G, folio 276		50	3	0
		£600	3	0

[Appendix I.]

Analysis of Renewals and Alterations of Mains and Service Mains for the year ending 31st March, 1902.

Townships or Districts	2 inches		3 inches		4 inches		5 inches		6 inches		7 inches		Total Lengths		Cost of Renewals and Alterations of Mains and Service Mains in each Township or District
	Laid	Taken Up	Laid	Taken Up	Laid	Taken Up	Laid	Taken Up	Laid	Taken Up	Laid	Taken Up	Laid	Taken Up	
	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yards	yards	£ s. d.
Ardwick	....	....	....	....	38	....	....	....	....	....	27	27	65	27	38 14 9
Blackley	....	....	86	170	....	....	....	....	....	....	....	....	86	170	27 8 6
Cheetham	....	....	....	117	161	....	....	....	....	....	....	....	161	117	46 2 5
Chorlton-upon-Medlock	....	98	98	....	183	183	....	....	....	....	....	....	281	281	84 16 6
Clayton	....	....	....	....	167	195	....	....	....	....	....	....	167	195	43 11 10
Hulme	....	....	471	467	332	332	....	....	....	....	....	....	803	799	259 7 10
Manchester	....	....	87	87	128	231	501	848	....	....	801	....	1012	666	624 7 7
West Gorton	....	....	9	....	129	129	....	....	....	....	....	....	138	129	57 0 9
Barton-upon-Irwell	....	....	....	....	13	20	....	....	....	....	21	....	34	20	37 10 2
Broughton	....	....	....	442	450	....	....	....	....	....	....	....	450	442	130 12 1
Burnage	....	....	....	17	....	....	17	....	....	....	....	....	17	17	8 1 6
Denton	....	....	....	132	....	....	132	....	....	....	....	....	132	132	52 19 8
Droylsden	....	....	....	....	495	515	....	....	....	....	....	....	495	515	95 19 8
Flixton	....	....	....	....	321	....	....	....	....	....	....	....	321	....	86 2 2
Moss Side	....	....	89	151	....	....	....	....	....	....	....	....	39	151	18 18 10
Pendlebury	....	....	....	....	....	....	....	....	....	....	40	40	40	40	22 0 0
Pendleton	....	....	....	211	720	120	264	....	....	....	1155	1091	2075	1484	1129 4 7
Urmston	....	....	....	237	237	150	237	....	....	....	....	....	474	387	181 11 4
Withington	....	....	51	475	....	....	475	....	....	....	....	....	526	475	236 18 7
Totals	....	98	841	2506	3369	1875	1626	848	....	1193	1480	27	7316	6047	3128 8 4
Deduct amount paid by private parties															895 12 11
Total £															2232 15 5

Total length of Piping laid, 7,316 yards = 4 miles and 276 yards.
Total length of Piping taken up, 6,047 yards = 3½ miles and 327 yards.

(Appendix J.)

Length of Iron Piping laid in Extensions of Mains and Service Mains for the year ending 31st March, 1902.

Townships or Districts	Diameter of Pipes						Total length of Piping laid in each Township or District	Cost of Piping in each Township or District
	3 inches	4 inches	6 inches	7 inches	18 inches	20 inches		
	yards	yards	yards	yards	yards	yards	yards	£ s. d.
Ardwick	185	...	...	...	...	...	185	52 12 10
Beswick	98	...	...	...	...	...	98	23 11 1
Blackley	47	...	272	...	...	...	319	104 1 1
Bradford	115	...	...	...	...	...	115	30 18 6
Cheetham	80	65	40	...	...	...	185	58 1 11
Clayton	146	...	167	...	...	...	313	86 15 10
Crumpsall	85	70	...	...	...	...	155	40 17 9
Harpurhey	121	...	...	...	...	...	121	32 0 11
Manchester	76	235	93	...	...	...	404	154 5 9
Moston	222	...	...	...	...	...	222	55 5 0
Newton	624	108	108	...	...	...	840	239 17 3
Rusholme	819	...	192	...	662	...	1673	1572 11 8
West Gorton	117	...	...	...	...	...	117	33 16 5
Barton-upon Irwell	1392	...	75	...	...	...	1467	369 3 11
Broughton	501	162	...	...	...	...	663	177 5 9
Burnage	121	...	128	...	...	...	249	79 6 1
Chorlton-cum Hardy	986	...	428	...	...	...	1394	366 1 8
Denton	30	...	...	...	...	...	30	7 0 11
Didsbury	492	...	...	...	...	...	492	112 0 9
Droylsden	198	...	...	...	...	598	796	1950 4 1
Flixton	46	256	...	...	...	...	302	74 17 4
Gorton	639	188	240	...	...	...	1067	317 15 4
Levenshulme	342	231	...	...	...	...	573	143 10 7
Moss Side	560	...	142	...	...	...	702	179 17 2
Pendlebury	55	67	...	...	...	...	122	38 1 3
Pendleton	904	489	212	...	...	...	1605	441 13 10
Prestwich	233	...	...	...	...	...	233	55 14 8
Stretford	824	...	61	1101	...	...	1986	682 10 6
Urmston	197	...	...	...	...	...	197	48 0 5
Withington	295	52	61	...	...	...	408	96 19 3
Worsley	307	...	...	...	...	...	307	90 17 4
Totals	10837	1923	2219	1101	662	598	17340	
Total Length of Iron Piping laid, 17,340 yards = 9¾ miles and 180 yards								7715 11 10
Total Length of Service Piping laid, 7,572 4/8 yards = 4⅜ miles and 92 4/8 yards								1251 11 1
							Total £	8967 2 11

Wm. Blackstock,
Secretary.

Appendix D—Exhibit 1.

A.—STATEMENT OF AUTHORISED CAPITAL.

ON THE 31ST MARCH, 1902.

Description.	Rate per cent. of Interest.	Total Amounts Borrowed and Liability on Annuities at 31st March, 1902.	Remaining to be Borrowed.	Total Amount Authorised.
UNDER BIRMINGHAM (CORPORATION) WATER ACTS, 1875 AND 1879.		£ s. d.		
Annuities				
(Capitalised at 25 years' purchase) ...		1,300,364 5 5		
Birmingham Corporation 3½% Stock ...	3½	432,626 17 2		
Ditto ditto 3 % Stock ...	3	224,269 6 6		
Ditto ditto 2½% Stock ...	2½	44,410 12 10		
Total amount outstanding		£2,001,671 1 11		
Annuities redeemed, Stock Cancelled or Transferred, and Mortgages repaid from Sinking Fund		96,188 16 9		
		£2,097,859 18 8		£2,097,859 18 8
UNDER BIRMINGHAM (CORPORATION) WATER ACT, 1892.		£ s. d.		
Birmingham Corporation 3½% Stock ..	3½	35,000 0 0		
Ditto ditto 3 % Stock ...	3	380,488 8 9		
Ditto ditto 2½% Stock ...	2½	1,243,419 5 2		
	3⅝	20,000 0 0		
	3½	231,500 0 0		
	3¼	1,486,136 19 10		
Mortgages and Loans	3	105,200 0 0		
	2¾	1,199,663 0 2		
	2⅝	100 0 0		
	2½	73,000 0 0		
	2	1,400 0 0		
Total amount outstanding		£4,775,907 13 11		
Stock cancelled from Sinking Fund ...		24.092 6 1		
		£4,800,000 0 0	£1,800,000 0 0	£6,600,000 0 0

Dr **B.—CAPITAL ACCOUNT No. 1, UNDER BIRMINGHAM**

FOR THE YEAR ENDED

	Expenditure to 31st March, 1901.	Expenditure during the Year.	Total to 31st March, 1902.
	£ s. d.	£ s. d.	£ s. d.
To Expenditure to 31st March, 1901	2,097,859 18 8		2,097,859 18 8
Total carried to Balance Sheet ...			£2,097,859 18 8

Dr. **C.—CAPITAL ACCOUNT No. 2, UNDER BIRMINGHAM**

FOR THE YEAR ENDED

To Expenditure on Elan Supply to 31st March, 1901 ...	3,456,921 12 5		3,456,921 12 5
,, Expenditure since that date	...	987,874 1 9	987,874 1 9
Total carried to Balance Sheet ...	...	...	4,444,795 14 2
Expenditure on Local Works to 31st March, 1901 ...	80,424 12 5		
,, Expenditure since that date			
Extension of Works ... £1,414 10 3			
New Mains... 9,744 8 5			
New Meters.. 965 16 10			
	...	12,124 15 6	
Less Depreciation as under :—			
On Temporary Works ... 3,583 13 1	...		
On Temporary Mains ... 109 17 7			
On Meters ... 1,222 17 1			
	...	4,916 7 9	
		7,208 7 9	
Total carried to Balance Sheet ...	...	...	87,633 0 2
			4,532,428 14 4
To Treasurer of the City ...	...	...	267,571 5 8
			£4,800,000 0 0

(CORPORATION) WATER ACTS, 1875 AND 1879. Cr.

31ST MARCH, 1902.

	Capital at 31st March, 1901.	Additions* or Reductions† during the Year.	Capital at 31st March, 1902.
	£ s. d.	£ s. d.	£ s. d.
By Annuities	1,307,394 7 6	†7,030 2 1	1,300,364 5 5
„ Birmingham Corporation 3½ % Stock	433,827 10 10	†1,200 13 8	432,626 17 2
„ Birmingham Corporation 3 % Stock	227,497 11 0	†3,228 4 6	224,269 6 6
„ Birmingham Corporation 2½ % Stock	52,576 5 10	†8,165 13 0	44,410 12 10
Total Amount Outstanding			2,001,671 1 11
„ Loans repaid from Sinking Fund	76,564 3 6	*19,624 13 3	96,188 16 9
Total carried to Balance Sheet ...			£2,097,859 18 8

(CORPORATION) WATER ACT, 1892. Cr.

31ST MARCH, 1902.

By Birmingham Corporation 3½ % Stock	35,000 0 0		35,000 0 0
„ Birmingham Corporation 3 % Stock	381,595 6 8	†1,106 17 11	380,488 8 9
„ Birmingham Corporation 2½ % Stock	1,248,000 0 0	†4,580 14 10	1,243,419 5 2
„ Mortgages and Loans ...	2,004,500 0 0	*1,112,500 0 0	3,117,000 0 0
Total Amount Outstanding			4,775,907 13 11
„ Loans repaid from Sinking Fund	18,404 13 4	*5,687 12 9	24,092 6 1
Total carried to Balance Sheet			£4,800,000 0 0

Dr. D.—REVENUE

FOR THE YEAR ENDED

1901. £	MAINTENANCE OF WORKS, AND DISTRIBUTION OF WATER.	£ s. d.	Year to 31st March, 1902. £ s. d.
	To Pumping, including Salaries, Wages, Coal, and Stores,		
40,009	at Pumping Stations ...	36,787 3 6	
1,107	„ Filtration	1,062 1 8	
4,407	„ Maintenance of Engines and Boilers	4,180 2 8	
7,707	„ Maintenance of Reservoirs, Mains, Buildings, &c. ...	7,171 19 4	
	„ Proportion chargeable to Revenue of the Cost of Work at Longbridge ...	1,420 10 6	
299	„ Temporary Extension of Broad Street Offices ...	...	
1,758	„ Salaries	1,923 15 0	
2,802	„ Wages	3,134 5 10	
1,882	„ Waste Inspection	1,950 9 9	
214	„ Pensions prior to 1897 Scheme	189 16 0	
566	„ Superannuation Allowances, 1897 Scheme	578 8 0	
15	„ Contributions for Superannuation returned to Members retiring	30 13 5	
23	„ Pensions to Workmen, 1897 Scheme	22 9 0	
21	„ Workmen's Compensation...	23 13 0	
13,212	„ Rates and Taxes	24,533 6 11	
130	„ Rents and Tithes	155 3 4	
750	„ Rent of Site and Water Rights at Perry Sinking..	750 0 0	
—	„ Auxiliary Supply from East Worcestershire Water Works	3,773 17 6	
3,601	„ Depreciation of Temporary Works and Mains ...	3,109 17 7	
317	„ Chemical and Bacteriological Examination of Waters ...	334 10 7	
106	„ Prevention of Hose-Pipe Watering, &c.	121 17 6	
	„ In re the destruction of Blythe Bridge, Coleshill, Professional Charges ...	113 6 7	
78,926			91,367 7 8
78,926	Carried forward ...		91,367 7 8

ACCOUNT. Cr.

31st March, 1902.

	Year to 31st March, 1902. £ s. d.	1901. £
By Water Rents	251,482 6 9	240,966
,, Profit on Service Laying, including £307 18s. 6d. in respect of Testing Water Fittings	782 13 2	650
,, Rents of Land and Cottages and Profit on Farming	620 19 0	688
,, Profit on Hydraulic Power Supplies ...	102 4 8	—
,, Fishing Subscriptions and Tickets ...	125 19 0	102
,, Transfer Fees	16 15 0	20
,, Contributions for Superannuation, 1897 Scheme	611 17 7	594
Carried forward	253,742 15 2	243,020

D.—REVENUE

FOR THE YEAR ENDED

1901.		£ s. d.	Year to 31st March, 1902. £ s. d.
£ 78,926	Brought forward ...		91,367 7 8
	MANAGEMENT.		
9,677	To Office Salaries	9,890 13 4	
452	,, Meter state-taking	504 4 11	
315	,, Pensions prior to 1897 Scheme	315 0 0	
176	,, Superannuation Allowances, 1897 Scheme	241 1 0	
28	,, Contributions for Superannuation returned to Members retiring	116 12 6	
3,158	,, Office and Incidental Expenses	3,258 18 10	
2,194	,, Bank Commission and Share of Loans Fund Management Expenses	2,188 5 7	
1,769	,, Abatements	1,756 0 8	
153	,, Bad Debts	252 7 2	
134	,, Law and Professional Charges	106 6 8	
18,056			18,629 10 8
170	,, Revision of Water Rents consequent upon the Re-assessment of the Birmingham and Aston Parishes		788 5 6
82	,, Loss on Hydraulic Power Supplies		
97,184			110,785 3 10
145,836	,, Balance carried to Profit & Loss Account (E)		142,957 11 4
£243,020			£253,742 15 2

ACCOUNT—*continued.*

31ST MARCH, 1902. Cr.

	Year to 31st March, 1902.	1901.
	£ s. d.	£
Brought forward	253,742 15 2	243,020
	£253,742 15 2	£243,020

Dr. E.—PROFIT AND

FOR THE YEAR ENDED

1901. £					Year to 31st Mar., 1902. £ s. d.
52,401	To Annuities				52,113 1 6
	„ Interest under Acts 1875 and 1879.				
24,132	On Birmingham Corporation Stock (including share of costs of issue) ...				24,003 5 10
	„ Interest under Act 1892.				
46,192	On Mortgages and Loans	75,861	11	5	
569	On Appropriation of Loans Fund	—	—	—	
45,249	On Birmingham Corporation Stock (including share of costs of issue)	45,799	4	5	
92,010					121,660 15 10
	„ Sinking Fund for Redemption of Annuities, Stock, and Loans.				
3,232	Interest	3,649	18	6	
10,678	Instalments	10,678	1	10	
13,910					14,328 0 4
£182,453					£ 212,105 3 6

LOSS ACCOUNT. Cr.

31st March, 1902.

	Year to 31st Mar., 1902. £ s. d.	1901. £
By Balance of Revenue Account (D)	142,957 11 4	145,836
„ Bank Interest	1,401 15 8	845
„ Rents of Lands on Elan Watershed and Aqueduct	1,640 3 6	1,580
„ Hydraulic Power Account in respect of Capital Charges relative to the Hydraulic Installation, viz. :—		
Interest under Acts 1875 and 1879 .. ... 341 11 4		
Interest under Act 1892.. 220 17 6		
Sinking Fund 423 14 5	986 3 3	980
„ Interest on Investment on Account of Sinking Fund, viz. :—		
£10,000 Leeds Corporation 5 per cent. Irredeemable Stock	— — —	475
„ Balance transferred to Special Water Fund Account (I.)	65,119 9 9	32,737
	£212,105 3 6	£182,453

Dr. F.—HYDRAULIC

FOR THE YEAR ENDED

1901. £			Year to 31st March, 1902. £ s. d.
97	To Ground Rent		96 15 0
107	,, Poor and Improvement Rates on Buildings		152 5 0
402	,, Wages at Station		388 13 10
256	,, Gas		301 1 11
46	,, Stores, &c.		45 14 4
230	,, Water (10,113,000 Gallons at 6d. per 1,000)		252 16 6
1,138			1,237 6 7
948	,, Balance carried forward...		1,088 7 11
2,086		£	2,325 14 6
	To Interest on Capital Outlay, viz.:—		
	On Balance outstanding—		
		£ s. d.	
354	Under Acts 1875 and 1879, £11,385 11s. 4d.	341 11 4	
215	Under Act 1892, £7,374 1s. 2d.	220 17 6	
			562 8 10
411	,, Sinking Fund		423 14 5
—	,, Profit for the Year carried to Revenue Account D		102 4 8
930		£	1,088 7 11

POWER SUPPLY. Cr.

31st March, 1902.

	Year to 31st March, 1902. £ s. d.	1901. £
By Charges for power	2,325 14 6	2,086
£	2,325 14 6	2,86
By Balance of Working Account	1,088 7 11	948
„ Loss for the Year.	— — —	32
£	1,088 7 11	980

Dr. G.—RESERVE

FOR THE YEAR ENDED

	£	s.	d.
To Interest carried to Borough Fund Account	2,000	0	0
,, Balance to be carried to next Account	50,000	0	0
	£52,000	0	0

Dr. H.—SINKING

FOR THE YEAR ENDED

	£	s.	d.
To Purchase of Annuities for Redemption	9,402	19	1
,, Birmingham Corporation Stock cancelled	18,282	3	11
,, Balance to be carried to next Account, viz.:—			
Treasurer of the City	8,533	2	0
	£36,218	5	0

Dr. I.—SPECIAL WATER

FOR THE YEAR ENDED

	£	s.	d.	£	s.	d.
To Balance of Profit and Loss Account, transferred in pursuance of Birmingham Corporation Water Act, 1892, S. 70 (1)				65,119	9	9
,, Balance to be carried to next Account, viz.:—						
Invested with the Birmingham School Board	83,603	7	2			
Less Due to the Treasurer of the City	48,906	6	11	34,697	0	3
				£99,816	10	0

FUND ACCOUNT Cr.

31st March, 1902.

	£	s.	d.
By Balance brought from last Account	50,000	0	0
,, Interest	2,000	0	0
	£52,000	0	0

FUND ACCOUNT. Cr.

31st March, 1902.

			£	s.	d.
By Balance brought from last Account, viz.:—					
Treasurer of the City Sinking Fund Account	8,758	14 9			
On Birmingham Corporation Loans Fund	13,131	9 11			
			21,890	4	8
,, Amounts brought from Profit and Loss Account (E):—					
Interest	£3,649	18 6			
Instalments	10,678	1 10			
			14,328	0	4
			£36,218	5	0

FUND ACCOUNT. Cr.

31st March, 1902.

	£	s.	d.
By Balance brought from last Account	96,250	19	7
,, Dividend on £10,000 India 3% Stock	227	17	8
,, Interest on Loans to the Birmingham School Board...	2,947	7	4
,, Interest allowed by Bankers	390	5	5
	£99,816	10	0

Dr. K.—BALANCE SHEET,

	£	s.	d.	£	s.	d.
To Capital Account No. 1, as per Account B				2,097,859	18	8
,, Capital Account No. 2, as per Account C				4,800,000	0	0
,, Reserve Fund Account, as per Account G				50,000	0	0
,, Sinking Fund Account, as per Account H				8,533	2	0
,, Special Water Fund Account, as per Account I				34,697	0	3
,, Annuities accrued to date	13,003	12	10			
,, Interest accrued and unpaid	40,348	5	7			
,, Trade Creditors	13,900	7	8			
				67,252	6	1
,, Treasurer of the City						
On Revenue Account	53,956	8	8			
On Special Water Fund Account	48,906	6	11			
				102,862	15	7
				£7,161,205	2	7

E. ANTONY LEES,
Secretary.

29th April, 1902.

31st MARCH, 1902.

	£ s. d.	£ s. d.
By Capital Account No. 1, as per Account B.		2,097,859 18 8
,, Capital Account No. 2, as per Account C		
— On Elan Supply		4,444,795 14 2
On Local Works		87,633 0 2
,, Debtors for Water Rents, Services, &c.		105,921 6 2
,, Stock of Iron Pipes, Coal, and General Stores		15,073 11 5
,, Investment on Account of Special Water Fund:		
Birmingham School Board		83,603 7 2
,, Treasurer of the City:		
On Capital Account, No. 2 ...	267,571 5 8	
On Reserve Fund Account ...	50,000 0 0	
On Sinking Fund Account ...	8,533 2 0	326,104 7 8
,, Cash in hands of Secretary		213 17 2
		£7,161,205 2 7

Examined and found correct,

HOWARD SMITH, SLOCOMBE, & Co.,

29th April, 1902. *Auditors.*

L.—COMPARATIVE ANALYSIS OF THE RENTALS FOR THE YEARS, TO 31ST MARCH, 1901 AND 1902.

	1900.	1901.	Totals for 1901.	1902.	Totals for 1902.	Increase.	Decrease.	Percentage. Increase.* Decrease.†
DOMESTIC SUPPLIES.	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Domestic—not exceeding £50 net annual value	118,048	123,780 15 10		129,687 18 7		5,966 17 9		4·81*
Ditto exceeding ditto ditto	13,795	13,907 1 8		14,880 16 10		993 15 2		6·64*
Baths	4,510	4,941 5 8		5,497 11 10		556 6 2		11·25*
TOTALS FROM DOMESTIC SUPPLIES			142,579 8 2		150,016 2 8	7,436 19 1		5·21*
UNMEASURED TRADE & MISCELLANEOUS SUPPLIES.								
Trade Supplies	12,852	13,881 12 7		13,834 14 6			46 18 1	0·35†
Lock-up Shops, Offices, and Warehouses	3,763	4,145 18 1		4,336 2 2		190 4 1		4·58*
Churches, Chapels, and Schools	726	712 2 10		723 16 10		11 14 0		1·68*
‡Public-houses	6,696	6,470 0 9		6,947 15 2		477 14 5		7·38*
Unmeasured Supplies for Building Purposes...	1,191	855 15 0		944 12 3		88 17 3		10·39*
TOTALS FROM UNMEASURED TRADE AND MISCELLANEOUS SUPPLIES			25,565 9 9		26,287 0 11	721 11 8		2·82*
MEASURED SUPPLIES.								
Trade Supplies	59,966	63,648 10 6		63,278 2 5		634 11 11		1·01*
Railways, Street and Road Watering, Markets, &c.	9,499	10,177 14 3		11,901 1 2		1,723 6 11		16·92*
TOTALS FROM MEASURED SUPPLIES			73,921 4 9		75,179 3 7	2,357 18 10		3·23*
TOTAL RENTAL	230,967		240,965 17 2		251,482 6 9	10,516 9 7		4·36*

‡ The figures in this line refer to the unmeasured supplies only. Many Public-houses are supplied by Meter.

M.—RETURN OF UNMEASURED SUPPLIES.

LANDLORDS.

Rents.	Net Annual Value.	Water Rents.	Number of Houses, 31st March, 1901.	Number of Houses, 31st March, 1902.
WEEKLY RENTS.	£ s. d.			
2/9	5 0 0	6/-	1,172	1,006
3/6	7 10 0	8/-	16,659	16,670
4/3	7 10 0	8/-	14,212	12,125
-	10 0 0	10/-	25,786	30,066
5/9	10 0 0	10/-	13,111	12,746
6/6	12 10 0	15/-	24,961	26,710
6/9	12 10 0	16/6	9,918	10,458
8/-	12 10 0	16/6	7,274	7,114
9/6	15 0 0	20/-	7,005	7,588
10/-	17 10 0	22/-	5,135	5,624
ANNUAL RENTS. £				
25	20 0 0	24/-	4,045	4,151
30	25 0 0	29/6	2,594	2,708
35	30 0 0	35/6	973	1,059
40	35 0 0	41/6	439	491
50	40 0 0	47/6	224	202
60	50 0 0	57/-	125	158

OCCUPIERS.

Rents.	Net Annual Value.	Water Rents.	Number of Houses, 31st March, 1901.	Number of Houses, 31st March, 1902.
WEEKLY RENTS.	£ s. d.			
5/6	12 10 0	16/-	415	370
6/9	15 0 0	24/-	603	598
7/9	17 10 0	27/-	1,486	1,420
9/-	20 0 0	30/-	1,693	1,816
10/-	25 0 0	38/-	2,076	2,247
Carried forward..	...	..	142,905	145,982

OCCUPIERS—*continued.*

Rents.	Net Annual Value.	Water Rents.	Number of Houses, 31st March, 1901.	Number of Houses, 31st March, 1902.
Brought forward .	—	...	142,905	145,982
ANNUAL RENTS. £	£ s. d.			
30	25 0 0	33/-	3,088	3,248
35	30 0 0	45/-	2,196	2,403
40	35 0 0	52/-	1,774	1,901
50	40 0 0	57/-	1,833	1,987
60	50 0 0	60/-	1,229	1,344
Supplies used wholly or in part for domestic purposes. Percentage on net annual value—				
3 per cent.			289	328
4 per cent.			49	47
5 per cent.			303	314
6 per cent.			2,039	2,082
TOTAL NUMBER OF HOUSES IN SUPPLY ..			155,690	159,636

BATHS.

ANNUAL RENTS OF HOUSES.	Net Annual Charge.	Annual Charge.		
£	£ s. d.			
30	25 0 0	6/-	7,064	8,198
40	50 0 0	8/-	4,884	5,248
Ex. 60	Ex. 50 0 0	10/-	2,060	2,162
TOTAL NUMBER OF BATHS ..			13,958	15,608

MISCELLANEOUS UNMEASURED SUPPLIES.

Lock-up Shops, Offices, and Warehouses ..	2,221	2,288
Trade and Sundry Charges other than Domestic	9,939	10,126
*Full Licensed and Beer Houses	1,641	1,609
Churches, Chapels, Sunday and Day Schools ..	236	243
Fire Hydrants and Fire-Cocks	706	715
	14,743	14,981

* Unmeasured supplies only.

N.—STATEMENT OF PUMPING AND DISTRIBUTION OF WATER IN DISTRICTS.

QUANTITY STATED IN MILLIONS OF GALLONS.

YEAR.	Total Quantity Pumped.	Total Quantity Distributed.	Daily Average Distribution.	Ratio of Quantity Pumped to Quantity Distributed.	Total Distribution in Districts.			Nature of Total Consumption.	
					Low Level.	Middle Level.	High Level.	Measured	Domestic Unmeasured Trade Supplies, and Waste.
To Mar. 31 1891	9,183	6,141	16·82	1·50	2,252	3,139	750		
1892	9,474	6,003	16·44	1·58	1,996	3,170	837		
1893	9,402	6,111*	16·471	1·54	2,190	3,153	768		
1894	9,642	5,996	16·472	1·61	1,722	3,340	934	953	5,043
1895	8,903	5,814	15·972	1·53	1,970	2,974	870	914	4,900
1896	8,875	5,794	15·917	1·53	2,035	2,841	918	987	4,807
1897	9,504	5,971*	16·094	1·59	2,095	2,889	987	1,108	4,863
1898	10,286	5,888	16·178	1·75	1,804	2,952	1,132	1,315	4,573
1899	10,633	6,265	17·212	1·70	1,992	3,075	1,198	1,386	4,879
1900	11,275	6,639	18·239	1·70	2,032	3,367	1,240	1,498	5,141
1901	11,418	6,516	17·901	1·73	1,886	3,358	1,272	1,596	4,920
1902	11,813	6,785	18·640	1·74	2,071	3,421	1,293	1,632	5,153

* 53 weeks.

O.—STATEMENT OF THE YEARLY EXPENDITURE OF CAPITAL.

Year.	Mains.		Works and Buildings, less Depreciation.	Meters, less Depreciation.	Elan Supply.	Totals for Year.	Total to Date.
	Length in Miles.	Cost.					
		£	£	£	£	£	£
At Dec. 31, 1875	252·448	—	—	—	—	—	1,523,123
Jan. 1, 1876, to 31 Mar., 1891	231·500	211,763	304,461	38	...	516,262	2,039,385
To 31 Mar., 1892	16·750	13,070	15,859 -2,565†	558	11,569	38,491	2,077,876
1893	9·500	8,623	10,521	218	100,833	120,195	2,198,071
1894	14·000	5,163	1,967 -260†	998	237,964	245,832	2,443,903
1895	7·950	4,342	1,652	556	149,184	155,734	2,599,637
1896	11·170	5,783	2,124	832	186,851	195,590	2,795,227
1897	17·260	7,836	3,372	1,393	255,921	268,522	3,063,749
1898	22·489	16,333	9,468 -200*	1,256	366,727	393,584	3,457,333
1899	17·125	14,169 -1,000*	6,295 -2,275*	391	515,699	533,279	3,990,612
1900	17·910	7,571 -1,150*	3,271 -3,250*	220	707,493	714,155	4,704,767
1901	10·995	6,427 -540*	2,853 -3,310*	329	924,680	930,439	5,635,206
1902	14·076	9,744 -110*	1,415 -3,584*	257‡	987,874	995,082	6,630,288
	643·173	308,024	347,814	6,532	4,444,795	5,107,165	

* Depreciation of Temporary Mains and Works. † Sale of Land. ‡ Depreciation exceeds purchases.

P.—SUMMARY OF THE ACCOUNTS OF THE DEPARTMENT FROM 1876.

Year.	Water Rents.	Revenue from Various Minor Sources: Unmeasured Supplies for Building Purposes.	Service Laying.	Testing Fittings.	Farming, Rents of Lands, &c.	Profit on Hydraulic Power Supplies.	Fishing Subscriptions and Tickets.	Transfer Fees.	Contributions for Supplementation New Scheme.
	£	£	£	£	£	£	£	£	£
Totals 1876 to 1884	985,408	...	14,717	...	4,772	...	...	196	...
Ended 31st Dec.									
1885	115,704	...	1,607	...	208	...	...	16	...
1886	117,969	...	1,347	...	486	...	366	16	...
1887	120,805	...	1,800	...	394	...	196	14	...
1888	124,268	890	994	10	409	...	286	9	...
1889	128,298	561	990	20	321	...	364	15	...
Ended 31st Mar.									
1890 (3 months)	32,307	125	200	86	72	...	142	4	
1890–1... ...	134,894	541	928	186	509	...	348	13	...
1891–2... ...	139,394	568	657	134	318	...	296	19	...
1892–3... ...	142,805	679	906	138	510	...	356	28	...
1893–4... ...	175,296	681	1,264	174	454	...	289	16	...
1894–5... ...	178,836	548	948	164	1,149	...	356	20	...
1895–6... ...	186,870	888	865	188	1,081	...	306	19	...
1896–7... ...	199,198	778	728	129	1,017	...	270	16	...
1897–8... ...	210,929	1,001	1,084	191	488	...	188	17	...
1898–9...	220,452	1,125	1,248	217	704	...	195	19	577
1899–1900 ...	229,796	1,191	954	298	572	20	172	21	589
1900–1... ...	240,110	836	345	304	[illegible]	...	104	20	594
1901–2... ...	250,530	944	475	308	621	108	126	17	622
	2,948,608	10,620	20,277	2,225	14,268	120	3,619	468	2,372

Year.	Total Revenue.	Working Expenses.	Loss on Hydraulic Power Supplies.	Gross Profit.	Capital Charges: Under Acts 1876 and 1880.	Under Act 1892.	Net Result: Profit.	Loss.
	£	£	£	£	£	£	£	£
Totals 1876 to 1884	1,016,086	364,179	...	650,854	636,964		37,888	18,118
Ended 31st Dec.								
1885	117,838	44,908	...	72,930	80,273	...	...	7,343
1886	120,148	44,754	...	75,394	80,868	...	...	5,468
1887	122,977	43,718	...	79,258	81,277	...	...	2,019
1888	126,946	44,137	...	82,110	82,004	...	106	
1889	130,661	45,779	...	84,882	82,004	...	2,878	
Ended 31st Mar.								
1890 (3 months)	32,930	11,340	...	21,590	19,781	...	1,809	
1890–1... ...	136,964	50,700	...	86,265	85,319	...	946	
1891–2... ...	141,666	53,077	...	87,978	84,366	...	3,612	
1892–3... ...	144,541	53,470	...	91,071	85,304	1,676	4,091	
1893–4... ...	178,116	58,804	...	119,312	86,394	7,006	25,922	
1894–5... ...	181,320	70,374	...	110,946	85,648	12,071	13,227	
1895–6... ...	189,870	69,779	...	120,091	85,064	17,317	17,710	
1896–7... ...	202,060	69,311	...	132,748	86,083	21,053	25,612	
1897–8... ...	213,779	69,908	...	143,871	85,152	30,055	28,664	
1898–9...	224,898	78,498	...	146,404	86,990	43,005	15,409	
1899–1900 ...	233,843	87,611	...	146,232	80,778	62,908	...	6,172
1900–1... ...	240,030	97,152	28	143,866	89,186	80,968	...	22,737
1901–2... ...	253,748	110,705	...	142,968	80,679	118,308	...	65,118
	4,036,304	1,443,782	28	2,593,450	[illegible]	404,796	197,888	[illegible]

Appendix D—Exhibit 2.

Telegraphic Address:—
"WATER, BIRMINGHAM."
Telephone No. 220.

It is requested that all communications be addressed to "The Secretary."

In your reply please refer to
.....

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

44 BROAD STREET,
.....190

Sir,

A waste of water has been found to exist from the defective state of the.....
.....
being part of the Water Fitting on the premises.
.....
of which you are the.....

I am therefore directed to request that you will have the above-mentioned Fittings repaired WITHIN THREE DAYS FROM THE SERVICE OF THIS NOTICE on you.

I am, your obedient Servant,
E. ANTONY LEES,
Secretary.

.....
.....
.....

N. B.—Please note that in any repairs, alterations or extensions of Water Fittings the Bye-laws of the Department must be strictly complied with.

Telegraphic Address:—
"WATER, BIRMINGHAM."
Telephone No. 220.

It is requested that all communications be addressed to "The Secretary."

In your reply please refer to
.....

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

44 BROAD STREET,
.....190

Sir,

I beg to refer you to my.....of the.....
requiring you to have repaired the defective water fittings on the premises at .....
.....
.....
of which you are the.....

I am informed the necessary repairs have not yet been effected, and I have to request that you will have the work done within three days of the service on you of this notice.

I beg to call your attention to clause 17 of the Waterworks Clauses Act, 1863, a copy of which is printed at the foot hereof.

I am, your obedient Servant,
E. ANTONY LEES,
Secretary.

.....
.....
.....

WATERWORKS CLAUSES ACT, 1863.

XVII.—If any person supplied with water by the undertakers wilfully or negligently cause or suffer any pipe, valve, cock, cistern, bath, soil-pan, water-closet, or other apparatus or receptacle to be out of repair, or to be so used or contrived as that the water supplied to him by the undertakers is or is likely to be wasted, misused, unduly consumed, or contaminated, or so as to occasion or allow the return of foul air, or other noisome or impure matter, into any pipe belonging to or connected with the pipes of the undertakers he shall for every such offence be liable to a penalty not exceeding Five Pounds.

N. B.—Please note that in any repairs, alterations or extensions of Water Fittings the Bye-laws of the Department must be strictly complied with.

Telegraphic Address:—
"WATER, BIRMINGHAM."

It is requested that all communications be addressed to "The Secretary."

In your reply please refer to
.....

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

44 BROAD STREET,
.....190

Sir,

I beg to refer you to my notice of the..... calling your attention to the waste of water arising from the defective state of the.....
.....
being part of the Water Fittings on the premises.....
.....
of which you are the.....

I am informed that the waste of water is still taking place.

I am therefore directed to request that you will have the above-mentioned Fittings repaired WITHIN FORTY-EIGHT HOURS FROM THE SERVICE OF THIS NOTICE on you.

And I give you notice that if you make default in observing the requirements of this Notice, proceedings will be taken to recover penalties in pursuance of Clause 17 of the Waterworks Clauses Act, 1863.

I am, your obedient Servant,
E. ANTONY LEES,
Secretary.

.....
.....
.....

N. B.—Please note that in any repairs, alterations or extensions of Water Fittings the Bye-laws of the Department must be strictly complied with.

Telegraphic Address:
"Water, Birmingham."

IT IS REQUESTED THAT ALL COMMUNICATIONS BE ADDRESSED TO "THE SECRETARY."

CITY OF BIRMINGHAM.

WATER DEPARTMENT, 44, BROAD STREET.

.....190

SIR:

I beg to acknowledge the receipt of your communication, informing me that a waste of water is taking place on the premises

....

....

of which you are.....

It will be necessary for you to call in a Plumber to repair the fittings, as the Water Department does not undertake work of this description. I enclose herewith a list of authorized Plumbers who are under agreement to do only first-class work.

As it is necessary that the waste of water should be immediately stopped, I must ask you to have the fittings repaired at once.

An Inspector from the Department will call in three days to ascertain that the fittings have been put in order.

I am,
Your obedient Servant,

.....

.....

..... *Secretary.*

N. B.—Please note that in any repairs, alterations and extensions of water fittings the By-laws of the Department must be strictly complied with.

Appendix D—Exhibit 3.

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

Application for a Supply of Water.

.....189

Name of Applicant.....

Address of Applicant.....

Where supply required.....

Whether (*a*) Service..... } No. of Requisition,
" (*b*) Connection..... } .....
" or (*c*) Re-Connection required..... }

The fees payable are as per printed scale (*see over.*)

NATURE OF SUPPLY.	Rent of Premises.	Annual Water Rent (to be filled in by Rental Inspector.) £	s.	d.
1. Domestic, Single House	.....	.....	.....	....	....
2. Ditto, Compound.....	.....	.....	.....	....	....
3. Lock-up Retail Shops, Offices, Warehouses, &c.....	.....	.....	.....	....	....
4. For Trade purposes.....	.....	.....	.....	....	....
5. Mixed, *i. e.*, partly domestic and partly other.....	.....	.....	.....	....	....
6. Erection of Buildings.....	.....	.....	.....	....	....
7. Miscellaneous (*to be specified*)..	.....	.....	.....	....	....
		.....			
		.....			

N. B—In all cases except purely domestic supplies to single houses a special Agreement must be entered into, of which a copy will be furnished on application. (Special Agreement No.....)

Whether this is an original application or removal.....

If removal, last address.....

Signature of Applicant.....

Signature of Rental Inspector,

.....

.....189....

REVERSE SIDE OF PRECEDING APPLICATION.

CORPORATION OF BIRMINGHAM.

WATER DEPARTMENT.

The Water Committee hereby give notice than on and after the 1st April next, the charges for services or connections between the mains and the premises of Consumers (payable by Consumers) will be according to the following scale:—

SCALE OF CHARGES.

Within a radius of two miles of the Council House.

Lead Pipe	½ in.	¾ in.	1 in.	1¼in.	1½ in.
Per service first service in trench..	38/-	43/-	56/-	61/-	66/-
Per service after first in trench...	33/-	38/-	51/-	56/-	61/-

Above 1½ in., by special estimate on application.

Outside a radius of two miles of the Council House.

An extra charge of 2s. 6d. per service for the first service. Services after the first in the same trench, the same charge as within the two-mile radius.

Connection or re-connection of Services.

For every connection, or re-connection of a service (except when such is made at the time of laying the service for which a charge is made), 2s. 6d.

All charges are to be paid in advance.

As from the same date the cost of maintaining and repairing such services, hitherto charged to consumers, will be borne by the Corporation.

Forms of requisition for the laying on and connection or re-connection of services, and copies of the scale of charges, may be obtained on application at the offices.

E. ANTONY LEES,
Secretary.

44 Broad Street,
Birmingham,
5th March, 1897.

Appendix D—Exhibit 4.

No..... Entered.....

An Agreement made the day of 190 BETWEEN the MAYOR, ALDERMEN, AND CITIZENS of the CITY of BIRMINGHAM (hereinafter called the Corporation), by EBENEZER ANTONY LEES, of 44 Broad Street, Birmingham (Secretary of the Water Department of the said Corporation), of the one part, and (hereinafter called the Consumer), of the other part,

WITNESSETH that in consideration of the Consumer being permitted to take a supply of water for other than domestic purposes from the mains of the Corporation at the premises situate at the Consumer doth hereby agree with the Corporation that the Consumer will at all times pay for the same in accordance with the Scale of Charges endorsed hereon, or such other Scale as may from time to time be in force, and of which due notice shall have been given to the Consumer, and observe and perform all the terms, conditions, and restrictions hereinafter contained; that is to say:

1. The water shall be measured by a meter the size of and No^d. to be provided by the Corporation, and such meter and all pipes, valves and other apparatus connecting it with the mains of the Corporation, shall be fixed, laid, and connected at the cost of the Consumer, in a position and manner to be approved of by the Corporation.

2. The Corporation may, at their own cost, change the said meter at any time for another meter of like capacity, and the terms and conditions in this Agreement shall apply equally to any such substituted meter.

3. The said meter shall belong to the Corporation, and shall not be removed, or in any way disturbed or interfered with, except by an Officer of the Corporation.

4. The Officers of the Corporation shall have access to the said meter, and the pipes, valves, and other apparatus connecting it with the mains of the Corporation, at all reasonable times.

5. The record by the meter of the consumption of water shall be taken by an official of the Corporation as nearly as practicable on the same corresponding day in each quarter, and the quantity shown to have been consumed between such corresponding state takings, which may be either in the third month of the quarter or in the first month of the following quarter, shall for the purposes of this Agreement be taken to be the consumption for the quarter; and the amount of the charge for such consumption of water according to the scale shall be the amount of the quarterly charge payable under Clause 6 of this Agreement.

6. The charges for water supplied under this Agreement shall be due quarterly, on the 31st day of March, the 30th day of June, the 30th day of September, and the 31st day of December, in every year,

and shall be paid by the Consumer to the Corporation within fourteen days from the receipt of a written demand for the same. The amount due on any quarter day shall include water consumed after such quarter day, and up to the day of the state taking, in accordance with the provisions of the preceding Clause. PROVIDED ALWAYS AND IT IS HEREBY AGREED AND DECLARED that should the Consumer make default in payment of any sum due under this Agreement at the time herein provided for payment of the same, the Corporation shall be at liberty without prejudice to any other remedy they may possess, and without giving notice thereof to the Consumer, to forthwith cease supplying water to the said premises. PROVIDED ALSO that the Consumer shall pay to the Corporation at any time on demand such sum as may be then payable for the water taken, calculated according to the scale, notwithstanding that the period may be less or more than a quarter.

7. The Consumer shall take all reasonable and proper care of the said meter, and shall protect the same from damage by frost or other cause whatsoever, and shall on demand repay to the Corporation all costs and expenses incurred by them in repairing the said meter if so damaged.

8. The Corporation shall not be liable for any failure, deficiency, or lack of pressure in the supply of water to the said premises, and the said meter and other apparatus shall be fixed and maintained (whether fixed by the Corporation or by the Consumer) at the sole risk of the Consumer, who shall keep the Corporation indemnified against all claims for or in respect of any damage sustained, or costs or expenses incurred by any person or persons in connection with the same, or the supply of water therefrom.

9. Should the said meter stop working, or fail to indicate the quantity of water consumed, the Consumer shall give immediate notice thereof to the Secretary of the Water Department at the Water Offices, and the quantity of water consumed during any period when the meter may be out of order shall be estimated and finally fixed by the Corporation, from what they may consider to be the most reliable data at their command.

10. The Consumer shall, on the determination of this Agreement, deliver up to the Corporation the said meter in good condition, subject only to fair wear and tear.

11. No Boiler shall be supplied direct from the Corporation Main.

12. While the Corporation will afford every reasonable assistance by Meter Inspectors and other persons employed by them in discovering a waste or misuse of water, *after it has passed through the meter*, they shall not be held responsible for any failure in discovering the cause of such waste or misuse, nor shall the Consumer be exempt from liability to the payment for the quantity registered against him in respect thereof.

13. This Agreement may be determined by one calendar month's notice in writing on either side at any time to be given by or to the Consumer to or by the Secretary of the Water Department of

the Corporation as the case may be, and on the expiration of such notice the Consumer shall pay the Corporation for the water supplied according to scale, together with all other sums payable hereunder up to the date of the expiration of such notice.

14. The powers, rights, and remedies of the Corporation under this Agreement shall be in addition to, and not in derogation of, the powers, rights, and remedies conferred on or vested in them by the Birmingham Corporation Consolidation Act, 1883, and the Waterworks Clauses Acts, 1847 and 1863, or otherwise, or by the Common Law.

WITNESS to the Signature of the above-named EBENEZER ANTONY LEES.

WITNESS to the Signature of the above-named

SCALE OF CHARGES FOR THE SUPPLY OF WATER BY METER FOR OTHER THAN DOMESTIC PURPOSES.

¾-in. Meters.

For any quantity not exceeding 10,000 Gallons, 20/- per quarter.
Exceeding 10,000 Gallons, but not exceeding 15,000 Gallons, 25/- per quarter.
Exceeding 15,000 Gallons, but not exceeding 20,000 Gallons, 30/- per quarter.

Exceeding 20,000 Gallons, but not exceeding 50,000 Gallons, per quarter, at 1/7 per 1000 Gallons.

Exceeding 50,000 Gallons, but not exceeding 100,000 Gallons, per quarter, at 1/6 per 1000 Gallons.

Exceeding 100,000 Gallons, but not exceeding 150,000 Gallons, per quarter, at 1/5 per 1000 Gallons.

Exceeding 150,000 Gallons, but not exceeding 200,000 Gallons, per quarter, at 1/4 per 1000 Gallons.

Exceeding 200,000 Gallons, but not exceeding 250,000 Gallons, per quarter, at 1/3 per 1000 Gallons.

Exceeding 250,000 Gallons, but not exceeding 300,000 Gallons, per quarter, at 1/2 per 1000 Gallons.

Exceeding 300,000 Gallons, but not exceeding 350,000 Gallons, per quarter, at 1/1 per 1000 Gallons.

Exceeding 350,000 Gallons, but not exceeding 450,000 Gallons, per quarter, at 1/- per 1000 Gallons.

Exceeding 450,000 Gallons, but not exceeding 600,000 Gallons, per quarter, at -/11 per 1000 Gallons.

Exceeding 600,000 Gallons, but not exceeding 800,000 Gallons, per quarter, at -/10 per 1000 Gallons.

Exceeding 800,000 Gallons, but not exceeding 1,000,000 Gallons, per quarter, at -/9 per 1000 Gallons.

Exceeding 1,000,000 Gallons, but not exceeding 1,500,000 Gallons, per quarter, at -/8 per 1000 Gallons.

Exceeding 1,500,000 Gallons, but not exceeding 2,000,000 Gallons, per quarter, at -/7 per 1000 Gallons.

Exceeding 2,000,000 Gallons, per quarter, -/6 per 1000 Gallons.

[NOTE.—When the consumption under any particular rate approaches the maximum quantity, the cost exceeds what it would have amounted to, had such a further quantity been consumed, as would have brought the consumption under the next lower rate; thus, where 2,000,000 Gallons at -/7 are consumed the charge amounts to £58 6s. 8d., whereas 2,001,000 Gallons at -/6 amounts to but £50 0s. 6d. The Corporation have therefore resolved, that the maximum charge under one scale shall, in no case, exceed the minimum charge on the next lower scale.]

MINIMUM QUARTERLY CHARGES FOR SUPPLIES OF WATER THROUGH METERS OF A LARGER SIZE THAN ORDINARY.

½	Inch	£1 10s.	(entitling the Consumer to	19,000	gallons per quarter).
¾	Inch	£2 5s.	ditto	29,000	ditto
1	Inch	£4 10s.	ditto	60,000	ditto
1½	Inch	£10	ditto	142,000	ditto
2	Inch	£16	ditto	275,000	ditto

SCALE OF CHARGES HEREINBEFORE REFERRED TO.

The charge shall be a minimum of.....pounds.....shillings..... pence, (£) per quarter, covering the consumption up to gallons, such charge being arrived at on the basis of per cent. per annum, on the net annual value of the premises, divided by four to give the minimum charge for the quarter. In case the consumption in any quarter shall exceed the gallons covered by the minimum, then the charge for the quarter shall be the amount payable for the total consumption in accordance with the following Scale:—

For any quantity not exceeding 10,000 Gallons, 20/- per quarter.

Exceeding 10,000 Gallons, but not exceeding 15,000 Gallons, 25/- per quarter.

Exceeding 15,000 Gallons, but not exceeding 20,000 Gallons, 30/- per quarter.

Exceeding 20,000 Gallons, but not exceeding 50,000 Gallons, per quarter, at 1/7 per 1000 Gallons.

Exceeding 50,000 Gallons, but not exceeding 100,000 Gallons, per quarter, at 1/6 per 1000 Gallons.

Exceeding 100,000 Gallons, but not exceeding 150,000 Gallons, per quarter, at 1/5 per 1000 Gallons.

Exceeding 150,000 Gallons, but not exceeding 200,000 Gallons, per quarter, at 1/4 per 1000 Gallons.

Exceeding 200,000 Gallons, but not exceeding 250,000 Gallons, per quarter, at 1/3 per 1000 Gallons.

Exceeding 250,000 Gallons, but not exceeding 300,000 Gallons, per quarter, at 1/2 per 1000 Gallons.

Exceeding 300,000 Gallons, but not exceeding 350,000 Gallons, per quarter, at 1/1 per 1000 Gallons.

Exceeding 350,000 Gallons, but not exceeding 450,000 Gallons, per quarter, at 1/– per 1000 Gallons.

Exceeding 450,000 Gallons, but not exceeding 600,000 Gallons, per quarter, at –/11 per 1000 Gallons.

Exceeding 600,000 Gallons, but not exceeding 800,000 Gallons, per quarter, at –/10 per 1000 Gallons.

Exceeding 800,000 Gallons, but not exceeding 1,000,000 Gallons, per quarter, at –/9 per 1000 Gallons.

Exceeding 1,000,000 Gallons, but not exceeding 1,500,000 Gallons, per quarter, at –/8 per 1000 Gallons.

Exceeding 1,500,000 Gallons, but not exceeding 2,000,000 Gallons, per quarter, at –/7 per 1000 Gallons.

Exceeding 2,000,000 Gallons, per quarter, –/6 per 1000 Gallons.

[NOTE.—When the consumption under any particular rate approaches the maximum quantity, the cost exceeds what it would have amounted to had such a further quantity been consumed as would have brought the consumption under the next lower rate; thus, where 2,000,000 Gallons at –/7 are consumed the charge amounts to £58 6s. 8d., whereas 2,001,000 Gallons at –/6 amounts to but £50 0s. 6d. The Corporation have therefore resolved, that the maximum charge under one scale shall, in no case, exceed the minimum charge on the next lower scale.]

Appendix D—Exhibit 5.

SCALE NO. 3.—METERS.

CORPORATION OF BIRMINGHAM.—WATER DEPARTMENT.

SCALE OF CHARGES FOR THE SUPPLY OF WATER BY METER FOR TRADE PURPOSES.

Payable Quarterly.

¾-in. Meters.

For any quantity not exceeding 10,000 Gallons, . 20/- per quarter
Exceeding 10,000 Gallons, but not exceeding 15,000 Gallons, 25/- per quarter
Exceeding 15,000 Gallons, but not exceeding 20,000 Gallons, 30/- per quarter

Exceeding 20,000 Gallons, but not exceeding 50,000 Gallons, per quarter, at 1/7 per 1000 Gallons
Exceeding 50,000 Gallons, but not exceeding 100,000 Gallons, per quarter, at 1/6 per 1000 Gallons
Exceeding 100,000 Gallons, but not exceeding 150 000 Gallons, per quarter, at 1/5 per 1000 Gallons
Exceeding 150,000 Gallons, but not exceeding 200,000 Gallons, per quarter, at 1/4 per 1000 Gallons
Exceeding 200,000 Gallons, but not exceeding 250,000 Gallons, per quarter, at 1/3 per 1000 Gallons
Exceeding 250,000 Gallons, but not exceeding 300,000 Gallons, per quarter, at 1/2 per 1000 Gallons
Exceeding 300,000 Gallons, but not exceeding 350,000 Gallons, per quarter, at 1/1 per 1000 Gallons
Exceeding 350,000 Gallons, but not exceeding 450,000 Gallons, per quarter, at 1/- per 1000 Gallons
Exceeding 450,000 Gallons, but not exceeding 600,000 Gallons, per quarter, at -/11 per 1000 Gallons
Exceeding 600,000 Gallons, but not exceeding 800,000 Gallons, per quarter, at -/10 per 1000 Gallons
Exceeding 800,000 Gallons, but not exceeding 1,000,000 Gallons, per quarter, at -/9 per 1000 Gallons
Exceeding 1,000,000 Gallons, but not exceeding 1,500,000 Gallons, per quarter, at -/8 per 1000 Gallons
Exceeding 1,500,000 Gallons, but not exceeding 2,000,000 Gallons, per quarter, at -/7 per 1000 Gallons
Exceeding 2,000,000 Gallons, . . per quarter, at -/6 per 1000 Gallons

When the consumption under any particular rate approaches the maximum quantity, the cost exceeds what it would have amounted to,

had such a further quantity been consumed, as would have brought the consumption under the next lower rate; thus, where 2,000,000 Gallons at –/7 are consumed the charge amounts to £58 6s. 8d., whereas 2,001,000 Gallons at –/6 amounts to but £50 0s. 6d. The Corporation have therefore resolved that the maximum charge under one scale shall, in no case, exceed the minimum charge on the next lower scale.

MINIMUM QUARTERLY CHARGES FOR SUPPLIES OF WATER THROUGH METERS OF A LARGER SIZE THAN ORDINARY.

½	Inch	£1	10s.	(entitling the Consumer to	19,000	gallons per quarter).
¾	Inch	£2	5s.	ditto	ditto	29,000	ditto
1	Inch	£4	10s.	ditto	ditto	60,000	ditto
1½	Inch	£10		ditto	ditto	142,000	ditto
2	Inch	£16		ditto	ditto	275,000	ditto

No Boiler is to be supplied direct from the Corporation Main.

The Corporation do not undertake to give notice of their intention to stop the supply, when repairs or alterations are requisite. Receptacles of sufficient size should be provided by the Consumer to meet emergencies and prevent accidents.

The Meters must not be interfered with, or moved, except by the Corporation workmen.

While the Corporation will afford every reasonable assistance by the Meter Inspectors and other persons employed by them in discovering a waste or misuse of water *after it has passed through the Meter*, they will not hold themselves responsible for any failure in discovering the cause of such waste or misuse, nor exempt the consumer from liability to the payment for the quantity registered against him in respect thereof.

E. ANTONY LEES, *Secretary.*

Offices: 44, Broad Street.

Appendix D—Exhibit 6.

CORPORATION OF BIRMINGHAM.—WATER DEPARTMENT.

Scale of Water Rents to Occupiers and Landlords for Domestic Purposes; also Scale of Charges for Supplies of Water by Meter for Trade Purposes. These Scales were sanctioned by the City Council at their Monthly Meeting held on Tuesday, the 3rd January, 1903.

SCALE NO. 1.—OCCUPIERS.

CORPORATION OF BIRMINGHAM—WATER DEPARTMENT.

SCHEDULE OF ANNUAL WATER RENTS TO OCCUPIERS FOR DOMESTIC PURPOSES.

Weekly Rents, Occupiers Paying Rates and Taxes.	NET ANNUAL VALUE.	Annual Water Rents.	Maximum Authorised Water Rents.
s. d.		£ s. d.	£ s. d.
2 3	Not exceeding £5 0 0.....	0 6 0	0 6 0
2 9	Exceeding £5 0 0, but not exceeding £7 10 0	0 8 0	0 8 0
3 5	Ditto ditto	0 8 0	0 8 0
3 6	Exceeding £7 10 0, but not exceeding £10 0 0	0 10 0	0 10 4
3 9	Ditto ditto	0 10 0	0 10 4
4 0	Ditto ditto	0 10 0	0 10 4
4 3	Ditto ditto	0 10 0	0 10 4
4 6	Ditto ditto	0 10 0	0 10 4
4 9	Exceeding £10 0 0, but not exceeding £12 10 0	0 16 0	0 16 9
5 0	Ditto ditto	0 16 0	0 16 9
5 3	Ditto ditto	0 16 0	0 16 9
5 6	Ditto ditto	0 16 0	0 16 9
5 9	Exceeding £12 10 0, but not exceeding £15 0 0	1 4 0	1 4 0
6 0	Ditto ditto	1 4 0	1 4 0
6 3	Ditto ditto	1 4 0	1 4 0
6 6	Ditto ditto	1 4 0	1 4 0
6 9	Ditto ditto	1 4 0	1 4 0
7 0	Exceeding £15 0 0, but not exceeding £17 10 0	1 7 0	1 11 0
7 3	Ditto ditto	1 7 0	1 11 0
7 6	Ditto ditto	1 7 0	1 11 0
7 9	Ditto ditto	1 7 0	1 11 0
8 0	Exceeding £17 10 0, but not exceeding £20 0 0	1 10 0	1 18 0
8 3	Ditto ditto	1 10 0	1 18 0
8 6	Ditto ditto	1 10 0	1 18 0
8 9	Ditto ditto	1 10 0	1 18 0
9 0	Ditto ditto	1 10 0	1 18 0
9 3	Exceeding £20 0 0, but not exceeding £25 0 0	1 18 0	2 4 6
9 6	Ditto ditto	1 18 0	2 4 6
9 9	Ditto ditto	1 18 0	2 4 6
10 0	Ditto ditto	1 18 0	2 4 6

SCHEDULE OF ANNUAL WATER RENTS TO OCCUPIERS FOR DOMESTIC PURPOSES.—*Cont.*

Annual Rents, Occupiers Paying Rates and Taxes.	NET ANNUAL VALUE.	Annual Water Rents.	Maximum Authorized Water Rents.
£ s. d.		£ s. d.	£ s. d.
30 0 0	Exceeding £20 0 0, but not exceeding £25 0 0	1 18 0	2 4 6
35 0 0	Ditto £25 0 0 ditto £30 0 0	2 5 0	2 9 6
40 0 0	Ditto £30 0 0 ditto £35 0 0	2 12 0	2 14 0
50 0 0	Ditto £35 0 0 ditto £40 0 0	2 17 0	2 17 0
60 0 0	Ditto £40 0 0 ditto £50 0 0	3 0 0	3 0 0
	Exceeding £50 0 0	At the rate of 6 per cent. on the amount of the Net Annual Value.	At the rate of 6 per cent. on the amount of the Net Annual Value.

N. B.—Retail Shop Premises. Where any part of the supply is used for domestic purposes, the annual water rent charges will be the sums of between 5 and 3 per cent. on the net annual value or ratable value, as the particular nature of the supply and the amount of the net annual value or ratable value, exceeding £50 may determine, subject to the right of the Corporation to supply the water by meter on terms.

Retail Shops, Offices, etc.—The annual water rent charges will be the sum of 3 per cent. on the net annual value or ratable value exceeding £50, but in no case to be less than £2 10s. 0d. a year, with a further charge for any supply other than that of an ordinary kind to Retail Shops, Offices, etc., subject to the right of the Corporation to supply the water by meter on terms.

BATHS AS FOLLOWS:—

Houses of a Net Annual Value not exceeding			£25 0 0	£0 6 0
Exceeding	£25 0 0	but not exceeding	£50 0 0	£0 8 0
Exceeding	£50 0 0.....			£0 10 0

A supply of water for domestic purposes shall include a supply for one water-closet, but not for baths, or for cattle, or for horses, or washing carriages, where such horses or carriages are kept for hire, or by common carriers, or for any trade, manufacture, or business whatsoever, or for watering gardens, or for fountains, or for any ornamental purpose.

In addition to the rates for the supply for domestic purposes, the Corporation may demand and receive, for every additional water-closet beyond the first, in any house, any yearly sum not exceeding four shillings.

Supplies for other than domestic purposes by agreement.

SCALE NO. 2.—LANDLORDS.

CORPORATION OF BIRMINGHAM.—WATER DEPARTMENT.

SCHEDULE OF ANNUAL WATER RENTS TO LANDLORDS FOR DOMESTIC PURPOSES.

Weekly Rents, Landlords Paying Rates and Taxes	NET ANNUAL VALUE.	Annual Water Rents to Landlords Who Agree to Pay Whether the Houses Are Occupied or Not.	Maximum Authorized Water Rents.
s. d.		£ s. d.	£ s. d.
2 9	Not exceeding £5 0 0.....	0 6 0	0 6 0
3 6	Exceeding £5 0 0, but not exceeding £7 10 0	0 8 0	0 8 0
3 9	Ditto ditto	0 8 0	0 8 0
4 0	Ditto ditto	0 8 0	0 8 0
4 3	Ditto ditto	0 8 0	0 8 0
4 6	Exceeding £7 10 0, but not exceeding £10 0 0	0 10 0	0 10 4
4 9	Ditto ditto	0 10 0	0 10 4
5 0	Ditto ditto	0 10 0	0 10 4
5 3	Ditto ditto	0 10 0	0 10 4
5 6	Ditto ditto	0 10 0	0 10 4
5 9	Ditto ditto	0 10 0	0 10 4
6 0	Exceeding £10 0 0, but not exceeding £12 10 0	0 15 0	0 16 9
6 3	Ditto ditto	0 15 0	0 16 9
6 6	Ditto ditto	0 15 0	0 16 9
6 9	Ditto ditto	0 16 6	0 16 9
7 0	Ditto ditto	0 16 6	0 16 9
7 3	Ditto ditto	0 16 6	0 16 9
7 6	Ditto ditto	0 16 6	0 16 9
7 9	Ditto ditto	0 16 6	0 16 9
8 0	Ditto ditto	0 16 6	0 16 9
8 3	Exceeding £12 10 0, but not exceeding £15 0 0	1 0 0	1 4 0
8 6	Ditto ditto	1 0 0	1 4 0
8 9	Ditto ditto	1 0 0	1 4 0
9 0	Ditto ditto	1 0 0	1 4 0
9 3	Ditto ditto	1 0 0	1 4 0
9 6	Ditto ditto	1 0 0	1 4 0
9 9	Exceeding £15 0 0, but not exceeding £17 10 0	1 2 0	1 11 0
10 0	Ditto ditto	1 2 0	1 11 0

SCHEDULE OF ANNUAL WATER RENTS TO LANDLORDS FOR DOMESTIC PURPOSES.—*Cont.*

Annual Rents, Landlords Paying Rates and Taxes.	NET ANNUAL VALUE.				Annual Water Rents to Landlords Who Agree to Pay Whether the Houses Are Occupied or Not.	Maximum Authorised Water Rents.
£ s. d.					£ s. d.	£ s. d.
25 0 0	Exceeding	£17 10 0,	but not exceeding	£20 0 0	1 4 0	1 18 0
30 0 0	Ditto	£20 0 0	ditto	£25 0 0	1 9 6	2 4 6
35 0 0	Ditto	£25 0 0	ditto	£30 0 0	1 15 6	2 9 6
40 0 0	Ditto	£30 0 0	ditto	£35 0 0	2 1 6	2 14 0
50 0 0	Ditto	£35 0 0	ditto	£40 0 0	2 7 6	2 17 0
60 0 0	Ditto	£40 0 0	ditto	£50 0 0	2 17 0	3 0 0

N. B.—Retail Shop Premises. Where any part of the supply is used for domestic purposes, the annual water rent charges will be the sums of between 5 and 3 per cent. on the net annual value or ratable value, as the particular nature of the supply and the amount of the net annual value or ratable value, exceeding £50 may determine, subject to the right of the Corporation to supply the water by meter on terms.

Retail Shops, Offices, etc.—The annual water rent charges will be the sum of 3 per cent. on the net annual value or ratable value exceeding £50, but in no case to be less than £2 10s. 0d. a year, with a further charge for any supply other than that of an ordinary kind to Retail Shops, Offices, etc., subject to the right of the Corporation to supply the water by meter on terms.

BATHS AS FOLLOWS:—

Houses of a Net Annual Value not exceeding			£25 0 0	£0 6 0
Exceeding	£25 0 0	but not exceeding	£50 0 0	£0 8 0
Exceeding	£50 0 0.			£0 10 0

A supply of water for domestic purposes shall include a supply for one water-closet, but not for baths, or for cattle, or for horses, or washing carriages, where such horses or carriages are kept for hire, or by common carriers, or for any trade, manufacture, or business whatsoever, or for watering gardens, or for fountains, or for any ornamental purpose.

In addition to the rates for the supply for domestic purposes, the Corporation may demand and receive, for every additional water-closet beyond the first, in any house, any yearly sum not exceeding four shillings.

Supplies for other than domestic purposes by agreement.

Appendix D—Exhibit 7.

NOTICE.

//

PLEASE | _____ IT IS REQUESTED THAT ALL COMMUNICATIONS
REFER TO | _____ BE ADDRESSED TO "THE SECRETARY."

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

Hours of Attendance, 9 till 5; Saturdays, 9 till 1.

ALL CHEQUES AND ORDERS TO BE MADE PAYABLE TO THE WATER DEPARTMENT, AND CROSSED "LONDON, CITY, AND MIDLAND BANK, LIMITED."

OFFICES: 44, Broad Street.

1902.

SIR:

I beg to make application to you for the Sum of £..... due for Water Rent to Lady-Day, 1902, and to request that the same be paid at these Offices on or before the

I am,
Your obedient Servant,
E. ANTONY LEES,
Secretary.

Mr......

.....

....

FINAL NOTICE.

PLEASE REFER TO _____

IT IS REQUESTED THAT ALL COMMUNICATIONS BE ADDRESSED TO "THE SECRETARY."

CITY OF BIRMINGHAM.

WATER DEPARTMENT.

Hours of Attendance, 9 till 5; Saturdays 9 till 1.

ALL CHEQUES AND ORDERS TO BE MADE PAYABLE TO THE WATER DEPARTMENT, AND CROSSED "LONDON, CITY, AND MIDLAND BANK, LIMITED."

OFFICES: 44, Broad Street.

1902.

SIR:

I beg to make application to you for the Sum of £. ..... due for Water Rent to Lady-Day, 1902, and to request that the same be paid at these Offices on or before the

This is a FINAL APPLICATION, and, if disregarded, I shall have no alternative but to cause the issue of a Magistrate's Summons for the recovery of the amount.

I am,
Your obedient Servant,
E. ANTONY LEES,
Secretary.

Mr.....

.....

.....

H /

IT IS REQUESTED THAT ALL COMMUNICATIONS BE ADDRESSED TO "THE SECRETARY."

Reference: ———————

CORPORATION OF BIRMINGHAM.

WATER DEPARTMENT.

OFFICES—44, BROAD STREET.

Hours of Attendance, 9 till 5; Saturdays, 9 till 1.

☞ EARLY PAYMENT IS REQUESTED.

Mr..... .....*Dr.*

190		Gallons.	Water Consumed. Gallons.	At 9 M.	£	s.	d.
	State of Meter No.						
	Less State						
					—	—	—

RECEIPTS ARE GIVEN ON THE SPECIAL PRINTED FORMS, AND EACH PERSON SHOULD SEE SUCH FORMS ARE USED.

All Cheques and Orders to be made payable to the Water Department, and crossed "London, City, and Midland Bank, Limited."

In case of non-payment of Water Rent, persons are liable to have their supply of *Water cut off*, and the amount of the Account, together with the expenses, *recovered by distress*.

When a change of occupancy takes place, notice should be immediately given at the office, in order that the state of the Meter may be taken, and the account adjusted.

At the same time that the Corporation will afford every reasonable assistance by the Meter Inspectors and other persons employed by them in discovering a waste or misuse of water *after it has passed through the Meter*, they will not hold themselves responsible for any failure in discovering the cause of such waste or misuse, nor exempt the Customer from Liability to the payment for the quantity registered against him in respect thereof.

No boiler to be supplied direct from the Corporation Main.

The Corporation do not undertake to give notice of their intention to stop the supply when repairs or alterations are requisite. Receptacles of sufficient size should be provided by the consumer, to meet emergencies and prevent accidents.

The Meters must not be interfered with or removed, except by the Corporation workman.

ACCOUNTS SHOULD BE PRESENTED AT TIME OF PAYMENT.

REVERSE SIDE OF FOREGOING BILL.

BIRMINGHAM CORPORATION (CONSOLIDATION) ACT, 1883.

OBSERVE.—Persons committing either of the following offences incur a PENALTY OF FIVE POUNDS :—

For using Water for other than Domestic purposes, not having agreed for a supply for such other purposes, or having agreed for a supply for other than Domestic purposes, using Water for purposes not agreed for.

For supplying Water to, or permitting Water to be taken by, persons other than the Tenants or Customers of the Corporation.

For suffering Fittings to be out of Repair, by which the Water supplied by the Corporation is wasted (or the Corporation may cut off the supply until the Fittings are repaired).

For wilfully or carelessly injuring the Corporation's Works, or Fouling or Polluting the Corporation's Water, or for Flushing or Drawing off the Water from the Works, or in any way wasting the Water.

For altering, extending or removing any Pipes, or Apparatus to a Pipe, or to a Communication or Service Pipe of the Corporation, without first giving six days' notice in writing to the Corporation of the intention so to do, and the time of the proposed removal of such Service Pipes. (Persons committing this offence are also liable to an action at law for the damage done to the Pipes and Works of the Corporation.)

For taking Water, not having agreed with the Corporation for a supply of the same.

No supply direct from the Main can be allowed for the purposes of a Water Closet, but a Cistern and Self-acting Fall must be used in all cases. A Cistern must also be used for Water supplied to Steam Engines, or for any other Steam applications.

IF UNDELIVERED TO BE RETURNED TO THE WATER DEPARTMENT,
44, BROAD STREET, BIRMINGHAM.

K

Reference : IT IS REQUESTED THAT ALL COMMUNICATIONS BE ADDRESSED TO "THE SECRETARY."

Mr.....

To THE CORPORATION OF BIRMINGHAM, Dr.

WATER DEPARTMENT.

OFFICES :—44, BROAD STREET.

Hours of Attendance, 9 till 5 ; Saturdays, 9 till 1.

☞ EARLY PAYMENT IS REQUESTED.

To Water Rent due to Michaelmas, 1902.
at £.....per Annum.
For Bath Supply at.....per Annum.
} *Qrs.*

£	s.	d.
—	—	—
£		

*** The Occupier of any Dwelling House, or part of a Dwelling House, liable to the payment of any Water Rate who shall give notice of his intention to discontinue the use of the water supplied by the Corporation, or who shall remove from his Dwelling House between any two quarterly days of payment, shall pay the Water Rate in respect of such Dwelling House, or part of a Dwelling House, for the quarter ending on the quarterly day of payment next after his quitting the same or giving such notice.

Receipts are given on Special printed forms, and each person should see such forms are used.

All Cheques and Orders to be made payable to the Water Department, and crossed "London City and Midland Bank, Ld."

In case of non-payment of Water Rent, persons are liable to have their supply of Water *cut off*, and the Amount of the Account, together with the expenses, *recovered by distress.*

ACCOUNTS SHOULD BE PRESENTED AT TIME OF PAYMENT.

Supply.....

(On the reverse side of this bill appear the same observations as are on the preceding bill.)

D /

IT IS REQUESTED THAT ALL COMMUNICATIONS BE ADDRESSED TO "THE SECRETARY."

.....

.....

Mr.....

To THE CORPORATION OF BIRMINGHAM, Dr.
WATER DEPARTMENT.

OFFICES: 44, Broad Street. Hours of Attendance, 9 till 5; Saturdays, 9 till 1.

☞ EARLY PAYMENT IS REQUESTED.

Reference	*To Water Rent due to* MICHAELMAS, 1902.	Per Annum	£	*s.*	*d.*

(The text of this bill-head, other than the above heading, is the same as the preceding form.)

CORPORATION OF BIRMINGHAM.

WATER DEPARTMENT.

The Water Committee hereby give notice that on and after the 1st April next, the charges for services or connections between the mains and the premises of consumers (payable by consumers) will be according to the following scale:

SCALE OF CHARGES.

Within a radius of two miles of the Council House.

LEAD PIPE.....	½ in.	¾ in.	1 in.	1¼ in.	1½ in.
Per service first service in trench.....	38/-	43/-	56/-	61/-	66/-
Per service after first in trench	33/-	38/-	51/-	56/-	61/-

Above 1½ in., by special estimate on application.

Outside a radius of two miles of the Council House.

An extra charge of 2s. 6d. per service for the first service. Services after the first in the same trench, the same charge as within the two-mile radius.

Connection or reconnection of Services.

For every connection, or reconnection of a service (except when such is made at the time of laying the service for which a charge is made), 2s. 6d.

All charges are to be paid in advance.

As from the same date the cost of maintaining and repairing such services, hitherto charged to consumers, will be borne by the Corporation.

Forms of requisition for the laying on and connection or reconnection of services, and copies of the scale of charges, may be obtained on application at the offices.

E. ANTONY LEES,
Secretary.

44 Broad Street,
Birmingham,
5th March, 1897.

WATER RENTAL, LADY-DAY, 1902.

Remarks.		
Arrears at 30th Sept., 1902.		
Bad Debts, 30th Sept., 1902.		
Abatement to 30th Sept., 1902.		
Cash Received.	To 30th Sept., 1902.	
	To 30th August, 1902.	
	To 26th July, 1902.	
	To 28th June, 1902.	
	To 31st May, 1902.	
	To 26th April, 1902.	
	Cash Book. Fo.	
	Cash Book. No.	
	Date.	
List Fo.		
Total Due Lady-Day, 1902.		
Abatement to 31st March, 1902.		
Cash Received.	To 31st March, 1902.	
	Cash Book. Fo.	
	Cash Book. No.	
	Date.	
Adjustments.	Amount.	
	A. B. Fo.	
	Memo. Book Fo.	
Collector's Book Fo.		
Date Account rend'r'd.		
Amount Due.	Lady-Day, 1902.	
	Time Mo's.	
	Arrears from Michaelmas, 1901.	
Altered Name.		
Name.		
Folio.		

Columns are here shown reduced, but in the original show necessary spaces for rulings.

Appendix E—Exhibit 1.

EAST LONDON WATER WORKS COMPANY.

OFFICE—15A, ST. HELEN'S PLACE, LONDON.

CONDITIONS OF SUPPLY BY METER.

SCALE OF CHARGES.

For other purposes than domestic supplies, per Act 16 & 17 Vic. c. 166.

(PER QUARTER.)

		s.	d.	
Not exceeding 25,000 galls.,		1	0	per 1,000 galls.
Above 25,000 „ „ 50,000 „		0	9	„
„ 50,000 „ „ 100,000 „		0	8	„
„ 100,000 „ „ 200,000 „		0	7	„
When exceeding 200,000 „		0	6	„

If the supplies are delivered more than 20 feet above the level of the pavement, an additional charge of 25 per cent.

No boiler shall be supplied direct from the Company's main, or without a cistern, and every cistern shall be provided with a sound and suitable ball tap, of the valve kind, for the inlet of water.

In arranging that this supply shall be by Meter, the Company does not undertake that a continuous supply shall be furnished. Cisterns of a sufficient size must be provided.

16 & 17 Vict. cap. 166, sec. 63.—Provides that the highest point to which the Company shall be bound to raise the water to be supplied by them to any house or building shall be 40 feet above the level of the pavement adjoining, and nearest to the point at which such supply is required.

All parties using Meters, the property of the Company, will be held liable for all expenses of damage including that arising from *frost*.

The Meters must not be moved except by the Company's Workmen.

I. A. CROOKENDEN,
Secretary.

EAST LONDON WATER WORKS COMPANY.

OFFICE—ST. HELEN'S PLACE, LONDON.

SCALE OF CHARGES FOR SUPPLIES BY METER.

For other purposes than domestic supplies, per Act 16 & 17 Vic., c. 166.

(PER QUARTER.)

			s.	d.
For any quantity not exceeding	7,000 galls.		10	0

This amount must be paid if no water is registered.

Above 7,000 galls.,	and not exceeding	15,000 galls.,	1	6	per 1,000 galls.
15,000 ,,	,,	25,000 ,,	1	0	,,
25,000 ,,	,,	50,000 ,,	0	9	,,
50,000 ,,	,,	100,000 ,,	0	8	,,
100,000 ,,	,,	200,000 ,,	0	7	,,
When exceeding		200,000 ,,	0	6	,,

If the supplies are delivered more than 20 feet above the level of the pavement, an additional charge of 25 per cent.

No boiler shall be supplied direct from the Company's main, or without a cistern, and every cistern shall be provided with a sound and suitable ball tap, of the valve kind, for the inlet of water.

The Company cannot undertake in all cases to give notice when it is necessary to shut down a main. Receptacles of sufficient size must be provided by the Tenants to meet this emergency, and prevent accidents.

RENTS CHARGED FOR THE USE OF METERS.

	£	s.	d.	
1/2 inch	0	3	0	per Quarter.
3/4 ,,	0	4	0	,,
1 ,,	0	5	0	,,
1 1/4 ,,	0	5	0	,,
1 1/2 ,,	0	7	6	,,
2 ,,	0	10	0	,,
3 ,,	0	18	0	,,
4 ,,	1	4	0	,,

All parties using Meters, the property of the Company, will be held liable for all expenses of damage arising from wilful negligence, *frost*, or misuse.

The Meters must not be moved except by the Company's Workmen.

I. A. CROOKENDEN,

Secretary.

Appendix E—Exhibit 2.

THE METROPOLITAN WATER SUPPLY.

AUGUST, 1902.

REPORT on the Condition of the Metropolitan Water Supply during the month of August, 1902, by the Water Examiner appointed under the Metropolis Water Act, 1871.

The Thames water at Hampton, Molesey, and Sunbury was in good condition during the whole of the month under review. At its highest point the water was 7 inches, and at its lowest point 1 inch, below the average summer level. The total rainfall during the month at West Molesey was 3.30 inches.

The average daily supply delivered from the Thames during the month was 133,766,476 gallons; from the Lea, 26.251,785 gallons; from springs and wells, 56,394,951 gallons; from ponds at Hampstead and Highgate, 77,758 gallons. The last is used for non-domestic purposes only. The daily total was, therefore, 216,490,970 gallons for a population estimated at 6,396,757, representing a daily consumption per head of 33.84 gallons for all purposes.

The relative proportions of the supplies from the above various sources were as follows:—

From the Thames	61.788	per cent.
" " Lea	12.126	" "
" springs and wells	26.050	" "
" ponds	.036	" "

The following statement compares, in the case of each Company, the number of gallons per head per day supplied during the month, with the number supplied during the same month of the previous year:—

	August.	
	1902.	1901.
Chelsea	40.45	48.38
East London	28.77	32.10
Grand Junction	39 97	48 41
Kent	28.82	33.57
Lambeth	38.74	40.61
New River	32.05	34 21
Southwark and Vauxhall	39.52	41.08
West Middlesex	32.92	36.51

The total number of supplies furnished by the Water Companies during the month was 951,348, representing an increase of 1,966 supplies on the previous month.

The total supply divided by the number of supplies shows a daily average of 228 gallons for each such supply.

In the following statement the percentage of houses, &c., to which the constant system had been applied in each Company's district in August, 1902, and August, 1901, according to the return furnished by the Companies, are compared:—

	August.	
	1902.	1901.
Chelsea	100 per cent.	100 per cent.
East London	100 "	100 "
Grand Junction	100 "	100 "
Kent	99.8 "	97.3 "
Lambeth	78.4 "	77.0 "
New River	96.0 "	95.2 "
Southwark and Vauxhall	95.6 "	93.1 "
West Middlesex	100 "	100 "

The number of miles of streets containing water-pipes constantly charged in each Water Company's District within the Metropolis is as follows:—Chelsea, 125; East London, 304; Grand Junction, 122¼; Kent, 234⅝; Lambeth, 286; New River, 462; Southwark and Vauxhall, 160; West Middlesex, 266; Total, 1,959⅝ miles. Throughout this extent of streets hydrants for fire purposes can be fixed.

A comparison of the number of miles of streets with mains constantly charged, as entered in column 22 of the table following, with the number of public hydrants returned in column 23, will show what progress has been made within the Metropolis in meeting requirements for the more efficient protection of property from fire.

The East London Company obtained a supply of water from the Southwark and Vauxhall Company throughout the month, and from the 31st July to the 13th of August from the New River Company aided by the Grand Junction and the West Middlesex Companies. The average daily supply passed on by the Southwark and Vauxhall Company amounted to 7,935,483 gallons. The quantity passed on by the New River Company, if spread over the whole of the month, was equivalent to an average daily supply of 3,732,161 gallons.

As stated in earlier Reports the number of samples of the filtered water taken for examination by Dr. T. E. Thorpe, F.R.S., on behalf of the Local Government Board, has, since August, 1900, been considerably increased, and the places from which they were drawn have been more widely distributed over the areas supplied by the individual Companies. During August 12 such samples were taken from the mains of

each Company. The full monthly analysis, as in the past, of one sample from each Company is continued, but the examination of the remaining samples is confined to an estimation of the amount, at two temperatures, of "oxygen consumed" (measure of organic pollution), the amount of "albuminoid ammonia" (measure of nitrogenous organic pollution), and the degree of turbidity, if any (indication of inefficiency of filtration or of disturbance in the mains). The regular monthly analyses are also supplemented by similar determinations.

The water supplied by the five Companies drawing from the Thames contained in all cases less organic impurities than was found in the previous month; all the samples were clear and of good chemical quality. Of the supplies chiefly obtained from the River Lea and wells, that of the New River Company contained, as usual, only a small proportion of organic impurity; it was clear and of very good quality. The East London Company's water was clear and in chemical quality very similar to that distributed by the Thames Companies. The Kent Company's deep-well water was, as usual, of great organic purity, clear, and of excellent quality.

From the statement given by Dr. Thorpe, in his report on the full analyses undertaken by him during the month, it appears that organic carbon was present in the samples of water analysed by him, in proportions ranging for any unit of weight from 0.030 units to 0.152 units in every 100,000 units of the water. The chemists carrying out analyses for the Water Companies show by their results, which are recorded in the Appendix, proportions of organic carbon ranging from 0.034 units to 0.174 units in every 100,000 units of the water.

The proportions of brown tint in samples observed in a 2-foot tube, ascertained by their comparison with a standard of tint of brown opposed to 20 mm. in thickness of blue tint, in the manner described in the report for October, 1887, ranged from 2 degrees to 16 degrees.

Referring to the statements of the chemists, reporting on behalf of the Companies, it will be seen that the water of the West Middlesex Company showed the highest average amount of organic carbon, while that of the Kent Company showed the lowest amount.

The full analyses made by Dr. T. E. Thorpe, F.R.S., on behalf of the Local Government Board, of the waters supplied to the Metropolis, showed that the sample drawn from the mains of the West Middlesex Company contained the highest proportion of organic carbon and that of the Kent Company the lowest.

The water of the Kent Company is wholly derived from deep-wells, and is not filtered before delivery.

The water of the Lambeth Company exhibited the deepest average tint of brown.

All the samples of water collected at the works of the companies were efficiently filtered.

In the following table the circumstances under which filtration was carried out during the month by each Company are compared:—

Name of Companies.	Filtering Area per Million Gallons of the Average Daily Supply of 1901.	Thickness of Sand.		Average Rate of Filtration per Square Foot per Hour.	Area of Filter Beds cleaned during the Month.
		Maximum.	Minimum.		
	Acres.	Ft. in.	Ft. in.	Gallons.	Acres.
Chelsea	0.61	4 3	3 3	1.53	4.00
East London	0.75	2 6	1 6	0.94	14.00
*Grand Junction	1.21	3 0	1 6	0.88	9.66
Lambeth	0.44	3 0	2 6	2.45	8.55
New River	0.42	2 3	1 7	2.30	18.71
Southwark and Vauxhall	1.19	3 0	2 3	1.31	11 00
West Middlesex	1.00	2 9	2 6	1 29	6.06

*This Company has adopted a system of double filtration which is applied with more or less regularity. The figures entered refer to the thickness of the sand used for final filtration.

The following statement shows the number of days' supply represented by the capacity of the reservoirs for unfiltered water belonging to each Company:—

Chelsea	14.5
East London	29.3
Grand Junction	2.9
Lambeth	4.6
New River	4.2
Southwark and Vauxhall	13.7
West Middlesex	17.8

For several reasons the reservoirs cannot be drawn down to the limit of their capacity, and the available storage may be taken at about 15 per cent. less than that above stated.

The relative positions here assigned to the Companies, in regard to their means of avoiding the introduction of flood water to their filters, must, however, be qualified in certain cases to a considerable extent. The New River Company avails itself largely of well water, and the River Lea, above its intake, is less fouled by floods than it is lower down the valley. The Southwark and Vauxhall and the Grand Junction Companies have the means, during floods, of pumping from the gravel beds adjoining the Thames, and this is practically equivalent to an addition to their storage resources.

The following statement, furnished by the Chelsea Company, shows the condition of the River Thames on each day of August:

CHELSEA WATERWORKS, WEST MOLESEY.

River Thames.

Date.	Above S.L.	Below S.L.	State of the Water.			Intake Closed.	Remarks.
			Good.	Indifferent.	Bad.		
1902.							
Aug.	Ft. in.	Ft. in.					
1....	—	0 6	1	—	—	—	
2....	—	0 6	1	—	—	—	
3....	—	0 7	1	—	—	—	
4....	—	0 7	1	—	—	—	
5 ...	—	0 6	1	—	—	—	
6....	—	0 5	1	—	—	—	
7....	—	0 6	1	—	—	—	
8....	—	0 5	1	—	—	—	
9 ...	—	0 4	1	—	—	—	
10....	—	0 6	1	—	—	—	
11....	—	0 7	1	—	—	—	
12 ...	—	0 4	1	—	—	—	
13....	—	0 3	1	—	—	—	
14....	—	0 4	1	—	—	—	
15 ..	—	0 6	1	—	—	—	
16....	—	0 6	1	—	—	—	
17....	—	0 3	1	—	—	—	
18....	—	0 5	1	—	—	—	
19....	—	0 1	1	—	—	—	
20....	—	0 2	1	—	—	—	
21....	—	0 4	1	—	—	—	Rainfall 3.30 inches.
22....	—	0 4	1	—	—	—	
23....	—	0 2	1	—	—	—	
24....	—	0 3	1	—	—	—	
25....	—	0 4	1	—	—	—	
26 ...	—	0 4	1	—	—	—	
27....	—	0 3	1	—	—	—	
28....	—	0 4	1	—	—	—	
29 ...	—	0 4	1	—	—	—	
30....	—	0 5	1	—	—	—	
31...	—	0 5	1	—	—	—	

S.L. = Summer level.

The River intakes of the several Companies who abstract their water from the Thames River were open during the whole of the month.

In the tabular statement which follows, details are given under 26 heads in reference to the subjects noted on above, as well as a number of others of interest which relate to the appliances and works of the Companies dealing with the Metropolitan Water Supply. These have been supplied through the courtesy of the Directors of the several Companies.

For the reasons given in the report for May, 1892, the figures referring to population must be regarded as approximate only.

DETAILS of the METROPOLITAN WATER SUPPLY and WORK

Name of the Company.	Intakes.	Situation of Works.	†Total Volume which may be drawn daily. — Gallons.	Average Daily Supply during the Month. — Gallons.	Approximate percentage delivered for other than domestic purposes.	Number of Supplies to Houses, &c.	Number of Houses, &c. Supplied on the constant System.	Estimated Population supplied within the Districts of the Water Companies.	Subsiding and Storage Reservoirs for Unfiltered Water. No.	Area in Acres.	Available capacity. — Gallons.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
CHELSEA WATER-WORKS	From the Thames at Ditton and Molesey.	.. ..	22,000,000	11,758,064	20 exclusive of waste	39,493	39,493	290,668	—	—	—	1
		Molesey	—	—		—	—	—	4	40	190,000,000	2
		Seething Wells ..	—	—		—	—	—	—	—	—	3
		Putney Heath ..	—	—		—	—	—	—	—	—	4
		Total of Chelsea Waterworks ..	22,000,000	11,758,064	—	39,493	39,493	290,668	4	40	190,000,000	
EAST LONDON WATER-WORKS.	From the River Lea, the Thames at Sunbury, and Chalk Wells and Springs.	.. ..	*From Thames, 20,000,000 From Lea, not restricted.	Supply from River Lea and storage, 8,992,949 From Thames, 8,764,000 From wells, 14,553,951 From Hanworth Springs, 1,543,000 From Thames, per Southwark & Vauxhall Co., 8,035,000	60	219,908	219,908	1,455,791	—	—	—	1
		Walthamstow ..				—	—	—	10	314	1,210,000,000	2
		Lea Bridge	—			—	—	—	—	—	—	3
		Woodford Works ..	—			—	—	—	—	—	—	4
		Sunbury	—			—	—	—	—	—	—	5
		Hanworth	—			—	—	—	1	2	5,000,000	6
		Hornsey Wood ..	—			—	—	—	—	—	—	7
		High Beech	—			—	—	—	—	—	—	8
		Chingford (well) ..	—			—	—	—	—	—	—	9
		Waltham Abbey ..	—			—	—	—	—	—	—	10
		Buckhurst Hill ..	—			—	—	—	—	—	—	11
		East Ham (well) ..	—			—	—	—	—	—	—	12
		Rammey Marsh (well)	—			—	—	—	—	—	—	13
		Ponders End (well)..	—			—	—	—	—	—	—	14
		Total of East London Waterworks	26,000,000	41,889,000	—	219,908	219,908	1,455,791	11	316	1,215,000,000	
GRAND JUNCTION WATER-WORKS.	From the Thames at Hampton.	.. ..	†24,500,000	18,428,766	20	71,154	71,154	461,078	—	—	—	1
		Hampton	—	—		—	—	—	1	10	45,000,000	2
		Kew	—	—		—	—	—	2	8	13,500,000	3
		Campden Hill ..	—	—		—	—	—	—	—	—	4
		Hanger Hill, Ealing	—	—		—	—	—	—	—	—	5
		Total of Grand Junction Waterworks	24,500,000	18,428,766	—	71,154	71,154	461,078	3	19	58,500,000	
KENT WATER-WORKS	From the Chalk Wells.	.. ..	Not restricted.	17,953,128	20	103,823	103,622	622,932	None.			1
		New Cross	—	—		—	—	—				2
		Deptford	—	—		—	—	—				3
		Woolwich Common	—	—		—	—	—				4
		Plumstead Common	—	—		—	—	—				5
		Greenwich Park ..	—	—		—	—	—				6
		Chislehurst	—	—		—	—	—				7
		Shortlands	—	—		—	—	—				8
		Crayford	—	—		—	—	—				9
		Dover Road .. Shooters Hill..	—	—		—	—	—				10
		Farnborough..	—	—		—	—	—				11
		Dartford ..	—	—		—	—	—				12
		West Wickham	—	—		—	—	—				13
		Knockholt	—	—		—	—	—				14
		Wilmington	—	—		—	—	—				15
		Westerham	—	—		—	—	—				16
		Eltham	—	—		—	—	—				17
		Southfleet	—	—		—	—	—				18
		Total of Kent Waterworks ..	—	17,953,128	—	103,823	103,622	622,932	—	—	—	
LAMBETH WATER-WORKS.	From the Thames at Molesey.	.. ..	‡25,000,000	30,262,406	25 exclusive of waste.	125,185	98,107	781,154	—	—	—	1
		Molesey	—	—		—	—	—	3	30	125,000,000	2
		Long Ditton ..	—	—		—	—	—	2	1	3,000,000	3
		Brixton	—	—		—	—	—	—	—	—	4
		Streatham	—	—		—	—	—	—	—	—	5
		Selhurst	—	—		—	—	—	—	—	—	6
		Rockhill	—	—		—	—	—	—	—	—	7
		Coombe	—	—		—	—	—	—	—	—	8
		Norwood	—	—		—	—	—	—	—	—	9
		Total of Lambeth Waterworks ..	‡25,000,000	30,262,406	—	125,185	98,107	781,154	5	31	128,000,000	

* When the river is above flood level as marked by the Thames Conservators, no limit.

† Under Section 55 of the Staines Reservoirs, &c. Act, 1896, the Joint Committee representing the Grand Junction, the New River, and the West Middlesex Companies acquired powers to collect, divert and impound, and to deliver to the Companies mentioned, by means of works by that Act authorised, quantities of water derived from the Thames additional to those entered in col. 4 of this table. As the works referred to are not yet completed, it is not considered necessary at present to alter the entries referring to powers practically governing the present situation.

‡ The Company may, in addition, take gravel water to the extent of 7½ million gallons per diem, calculated on the daily average of each half year

of the WATER COMPANIES for the Month of August 1902.

	Covered Storage Reservoirs for Filtered Water.		Engines.		Greatest duty by Steam Power.	Head of Pressure in the District supplied.		Total number of Miles of Water-pipes in the Metropolis.	Number of Miles of Streets with Water-pipes constantly charged within the Metropolis.	Number of Street Hydrants, private Fire-cocks, and Fire-plugs erected within the Metropolis.	Number of Street Hydrants, private Fire-cocks and Fire-plugs erected within the Metropolis.	Filters.		
	No.	Capacity. — Gallons.	No.	Horse Power.		Greatest.	Least.					Filter Beds. No.	Filter Beds. Area in Acres.	Maximum Depth of Sand and other Materials.
	12.	14.	16.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1	—	—	—	—	Feet. 129	Feet. 143	Feet. 83	2571/2 all of which are constantly charged.	2261/2 all of which are constantly charged.	123	2,662 public, 854 private, 142 street watering hydrants, and 1,779 fire-plugs.	—	—	Thames sand - ft. in. 4 0
2	—	—	2	250	—	—	—					—	—	Shells, &c. - 0 6
3	—	—	10	2,221	—	—	—					8	8	Gravel - 0 6
4	2	21,000,000	—	—	—	—	—					—	—	
5	1	1,000,000												
	3	22,000,000	12	2,471	—	—	—	2571/2	2261/2	123	—	8	8	0' 0"
1	—	—	—	—	Feet. —	Feet. 214	Feet. 50	1,000 all of which are constantly charged.	675 all of which are constantly charged.	304 Many streets with 3 mains of pipes.	3,616 public hydrants, 3,247 private hydrants, and 213 hydrants for street watering.	—	—	Sand - ft. in. 5 0
2	—	—	4	725	—	—	—					3	1 1/4	Hoggin - 0 6
3	—	—	17	2,240	—	—	—					25	25 1/4	Coarse gravel 1 0
4	2	10,000,000	2	60	—	—	—					—	—	
5	—	—	2	156	—	—	—					—	—	
6	2	2,500,000	3	1,070	—	—	—					6	5	
7	1	5,000,000	—	—	—	—	—					—	—	
8	1	2,500,000	—	—	—	—	—					—	—	
9	—	—	2	242	—	—	—					—	—	
10	—	—	1	120	800	—	—					—	—	
11	1	800,000	—	—	—	—	—					—	—	
12	—	—	1	100	—	—	—					—	—	
13	—	—	1	210	—	—	—					—	—	
14	—	—	1	210	—	—	—					—	—	
15	—	—	—	—	—	—	—					—	—	
	8	20,800,000	37	6,220	—	—	—	1,000	675	304	—	34	33	5' 6"
	—	—	—	—	Feet. 231	Feet. 156	Feet. 30	49 2/4 all of which are constantly charged.	196 1/4 all of which are constantly charged.	1221/4	2,622 hydrants and 1,275 fire-plugs all of which are attached to pipes constantly charged.	—	—	OLD PATTERN. ft. in.
2	1	2,500,000	16	2,275	—	—	—					12	12 1/4	Harwich sand 2 0
3	1	2,500,000	6	1,257	—	—	—					6	6 1/4	Hoggin - 0 6
4	2	12,000,000	2	522	—	—	—					—	—	Fine gravel - 0 6
5	2	52,000,000 uncovered	—	—	—	—	—					—	—	Coarse gravel 0 6
														Boulders - 1 0
														NEW PATTERN.
														Sand - - 3 0
														Gravel - - 3 0
														Stones 1" to 3" diameter 0 6
	7	76,000,000	27	6,164	—	—	—	49 2/4	196 1/4	122 1/4	—	21	24 1/2	5' 0"
1	—	—	—	—	Feet. 240	Feet. 212	Feet. 50	69 2/4	52 1/2	204 1/2	2,727 hydrants on public roads. 672 to Government Establishments. 199 Private. 768 fire-plugs.	No re-	No re-	
2	1	1,750,000	—	—	—	—	—							
3	2	2,000,000	3	550	—	—	—							
4	1	5,000,000	—	—	—	—	—							
5	2	250,000	1	63	—	—	—							
6	2	1,125,000	—	—	—	—	—							
7	1	250,000	—	—	—	—	—							
8	—	—	2	120	—	—	—							
9	—	—	2	200	—	—	—							
10	1	300,000	2	60	—	—	—							
11	1	1,500,000	4	300	—	—	—							
12	1	270,000	—	—	—	—	—							
13	1	250,000	1	60	—	—	—							
14	1	500,000	—	—	—	—	—							
15	—	—	2	560	—	—	—							
16	2	1,125,000	1	30	—	—	—							
17	1	2,000,000	—	—	—	—	—							
18	—	—	1	60	—	—	—							
	16	19,620,000	23	2,269	—	—	—	69 2/4	52 1/2	204 1/2	—	—	—	—
1	—	—	—	—	Feet. 220	Feet. 220 upon pumping mains, 150 upon serving mains	Feet. 30	624 of which 562 1/2 are constantly charged.	462 of which 452 1/2 are constantly charged.	226 Many streets with 2 and 3 and some with 6 lines of pipes.	4,651 Public hydrants, 923 hydrants for street watering. 217 Private hydrants & about 10,400 fire-plugs.	—	—	Thames sand ft. in. 2 0
2	—	—	6	190	—		—					—	—	Shells, &c. - 1 0
3	—	—	14	2,470	—		—					12	12 1/2	Coarse gravel 2 0
4	2	12,000,000	10	1,005	—		—					—	—	
5	2	7,200,000	—	—	—		—					—	—	
6	1	2,500,000	—	—	—		—					—	—	
7	1	612,000	—	—	—		—					—	—	
8	1	1,150,000	—	—	—		—					—	—	
9	1	5,000,000	—	—	—		—					—	—	
	9	30,762,000	30	3,665	—	—	—	624	462	226	—	12	12 1/2	7 6

DETAILS of the METROPOLITAN WATER SUPPLY and WORKS

Name of the Company.	Intakes.	Situation of Works.	*Total Volume which may be drawn daily. Gallons.	Average Daily Supply during the Month. Gallons.	Approximate percentage delivered for other than domestic purposes.	Number of Supplies to Houses, &c.	Number of Houses, &c. supplied on the constant System.	Estimated Population supplied within the Districts of the Water Companies.	Subsiding and Storage Reservoirs for Unfiltered Water. No.	Area in Acres.	Available capacity. Gallons.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
NEW RIVER.	From Chadwell Spring, the River Lea and fourteen Chalk Wells.	[illegible]	Not restricted.	38,079,660 filtered, of which 19,492,772 were drawn from springs and wells and 16,065,352 from the Lea, and 2,521,237 from the Thames viâ the mains of the Grand Junction and West Middlesex Cos.; and 2,825,260 unfiltered, of which 77,758 were drawn from Hampstead and Highgate Ponds, 1,554,118 from springs and wells, and 1,193,384 from the Lea	25 exclusive of waste.	176,067	168,948	1,276,341	—	—	—	1
		Broad Mead (well)	—			—	—	—	—	—	—	2
		Amwell End (well) ..	—			—	—	—	—	—	—	3
		Amwell Hill (well) ..	—			—	—	—	—	—	—	4
		Amwell Marsh (well)	—			—	—	—	—	—	—	5
		Rye Common (well)	—			—	—	—	—	—	—	6
		Hoddesdon (well) ..	—			—	—	—	—	—	—	7
		Broxbourne (well) ..	—			—	—	—	—	—	—	8
		Turnford (well) ..	—			—	—	—	—	—	—	9
		Cheshunt (well and reservoirs) ..	—			—	—	—	2	18 1/2	30,000,000	10
		Whitewebbs (well) ..	—			—	—	—	—	—	—	11
		Hoe Lane (well) ..	—			—	—	—	—	—	—	12
		Highfield, Edmonton (well)	—			—	—	—	—	—	—	13
		Betstile (well) ..	—			—	—	—	—	—	—	14
		Campsbourne (well)	—			—	—	—	—	—	—	15
		Tottenham	—			—	—	—	—	—	—	16
		Hornsey	—			—	—	—	2	8	8,500,000	17
		Stoke Newington ..	—			—	—	—	2	42 1/2	90,000,000	18
		New River Head ..	—			—	—	—	1	3/4	700,000	19
		Southgate	—			—	—	—	—	—	—	20
		Bush Hill	—			—	—	—	—	—	—	21
		Bourne Hill	—			—	—	—	—	—	—	22
		Hampstead Heath ..	—			—	—	—				
		" " ..	—			—	—	—	12	28 1/4	30,000,000	23
		Highgate	—			—	—	—				
		Hornsey Lane ..	—			—	—	—	—	—	—	24
		Crouch Hill	—			—	—	—	—	—	—	25
		Maiden Lane	—			—	—	—	—	—	—	26
		Camden Park Road	—			—	—	—	1	1	900,000	27
		Claremont Square ..	—			—	—	—	—	—	—	28
		Total of New River Company	—	40,904,920	—	176,067	168,948	1,276,341	20	99 1/2	160,100,000	
SOUTHWARK AND VAUXHALL WATER-WORKS.	From the Thames at Hampton.	.. ..	†45,000,000	32,396,695	15 to 20 exclusive of waste.	127,067	121,426	852,620	—	—	—	1
		Hampton	—	—		—	—	—	3	60	390,000,000	2
		Battersea	—	—		—	—	—	2	10	46,000,000	3
		Nunhead	—	—		—	—	—	—	—	—	4
	From Well ..	Streatham	—	1,297,983		—	—	—	—	—	—	5
		Forest Hill	—	—		—	—	—	—	—	—	6
		Wandsworth	—	—	—	—	—	—	—	—	—	7
		Total of Southwark and Vauxhall Waterworks	45,000,000	33,694,678	—	127,067	121,426	852,620	5	70	436,000,000	
‡WEST MIDDLESEX WATER-WORKS.	From the Thames at Hampton.	.. ..	‡24,500,000	21,599,006	14 exclusive of waste.	88,672	88,672	656,173	—	—	—	1
		Hampton	—	—		—	—	—	—	—	—	2
		Hammersmith ..	—	—		—	—	—	—	—	—	3
		Barnes	—	—		—	—	—	7	117 1/2	397,500,000	4
		Campden Hill ..	—	—		—	—	—	—	—	—	5
		Barrow Hill	—	—		—	—	—	—	—	—	6
		Finchley Road ..	—	—		—	—	—	—	—	—	7
		Willesden	—	—		—	—	—	—	—	—	8
		Shoot up Hill ..	—	—		—	—	—	—	—	—	9
		Total of West Middlesex Waterworks	24,500,000	21,599,006	—	88,672	88,672	656,173	7	117 1/2	397,500,000	
From Thames			181,000,000	132,766,276								
Other Sources, ...			Not restricted.	83,724,694								
GRAND TOTAL FOR THE METROPOLIS ..			—	216,490,970	—	951,945	911,610	6,396,757	35	689	2,592,100,000	

* In December [illegible] the licences of the several Companies to draw water from the Thames were widened by agreement with the Conservators. The additional quantity of water to be taken daily by each of the Companies under the Agreement was, in the case of the Grand Junction, Lambeth, Southwark and Vauxhall, and West Middlesex Companies 4,500,000 gallons, and in the case of the Chelsea Company, 2,000,000 gallons.

NOTE.—The quantity returned as "the average daily supply in gallons" is, except in the case of the Chelsea Company, based on pump capacity, and the number of strokes of the pumping engines as recorded by counters. The Companies make a deduction from the gross quantities of water arrived at as above in order to compensate for slip in the valves or short stroke in the non-rotative engines and for the former defect in the case of the rotative engines. The Chelsea Company measure their supply by meters fixed on their mains at Putney.

† This represents the daily average of each half year which must not be exceeded.

‡ Under their Act of 1899 the Company may temporarily (pending the construction of the Staines Reservoirs) abstract in any given day [illegible] gallons, and deliver daily quantity of 28,500,000 gallons.

of the WATER COMPANIES for the Month of August 1902.

	Covered Storage Reservoirs for Filtered Water.		Engines.		Greatest lift by Steam Power.	Head of Pressure in the District supplied.		Total number of Miles of Water-pipes.	Number of Miles of Water-pipes in the Metropolis.	Number of Miles of Streets with Water-pipes constantly charged within the Metropolis.	Number of Street Hydrants, private Fire-cocks, and Fire-plugs erected within the Metropolis.	Filters.		
												Filter Beds.		Maximum Depth of Sand and other Materials.
	No.	Capacity — Gallons.	No.	Horse Power.		Greatest.	Least.					No.	Area in Acres.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1	—	—	—	—	Feet. 290	Feet. 220	Feet. 60	898 of which 703 are constantly charged.	815 of which 717 are constantly charged.	662	7,007 Public hydrants. 725 hydrants for street watering. 2,371 Private hydrants	—	—	Ft. in. Sand .. .. 2 2 Gravel .. .. 3 6 Increasing in coarseness towards bottom.
2	—	—	1	50	—	—	—					—	—	
3	—	—	1	50	—	—	—					—	—	
4	—	—	6	72	—	—	—					—	—	
5	—	—	2	165	—	—	—					—	—	
6	—	—	6	220	—	—	—					—	—	
7	—	—	1	50	—	—	—					—	—	
8	—	—	3	120	—	—	—					—	—	
9	—	—	3	150	—	—	—					—	—	
10	—	—	1	30	—	—	—					—	—	
11	—	—	3	240	—	—	—					—	—	
12	—	—	3	170	—	—	—					—	—	
13	—	—	3	210	—	—	—					—	—	
14	—	—	1	24	—	—	—					—	—	
15	—	—	3	120	—	—	—					—	—	
16	—	—	1	120	—	—	—					—	—	
17	—	—	6	225	—	—	—					8	5 7/12	
18	—	—	6	1,220	—	—	—					9	9	
19	—	—	2	168	—	—	—					8	2 1/4	
20	1	1,000,000	—	—	—	—	—					—	—	
21	1	40,000	—	—	—	—	—					—	—	
22	1	1,500,000	—	—	—	—	—					—	—	
23	1	800,000	—	—	—	—	—					—	—	
24	1	700,000	—	—	—	—	—					—	—	
25	1	1,000,000	—	—	—	—	—					—	—	
26	1	2,000,000	2	125	—	—	—					—	—	
27	2	12,000,000	—	—	—	—	—					—	—	
28	2	15,000,000	—	—	—	—	—					—	—	
29	—	—	—	—	—	—	—					—	—	
30	1	2,500,000	—	—	—	—	—					—	—	
	13	36,140,000	49	6,192	—	—	—	898	815	662	—	30	16 5/6	3 9"
1	—	—	—	—	Feet. 290	Feet. 170	Feet. 50	865	652	160	5,826 hydrants and 6,276 fire-plugs.	—	—	Ft. in. Harwich sand 3 0 Heggin .. 1 0 Fine gravel .. 0 9 Coarse gravel 0 9
2	—	—	16	6,150	—	—	—					28	28	
3	—	—	6	1,305	—	—	—					9	10 1/4	
4	4	12,000,000	4	300	—	—	—					—	—	
5	—	—	5	300	—	—	—					—	—	
6	1	5,000,000	—	—	—	—	—					—	—	
7	—	—	2	300	—	—	—					—	—	
	5	17,000,000	33	6,225	—	—	—	865	652	160	—	37	38 1/4	3' 6"
1	—	—	—	—	Feet. —	Feet. —	Feet. —	530 all of which are constantly charged.	354 all constantly charged.	266	2,726 hydrants and ghaut 2,510 fire-plugs.	—	—	Ft. in. Harwich sand 2 9 Barton sand .. 2 0 Gravel .. .. 1 6 Screened to different sizes and arranged in layers.
2	—	—	2	1,200	—	—	—					—	..	
3	—	—	12	1,920	210	200	30					—	—	
4	—	—	5	85	—	—	—					13	2 1/2	
5	1	2,672,000	—	—	—	—	—					—	—	
6	1	6,750,000	2	210	150	—	—					—	—	
7	1	2,500,000	—	—	—	—	—					—	—	
8	1	2,500,000	2	84	—	—	—					—	—	
9	1	6,000,000	—	—	—	—	—					—	—	
	5	19,422,000	23	3,549	—	—	—	530	354	266	—	13	2 1/2	3' 9"
	66	230,130,000	232	31,807	—	—	—	8,564½	3,530½	1,982½	62,115 hydrants.	150	153 1/4	—

C. PERRIN,
Water Examiner, Metropolis Water Act, 1871,
Local Government Board, Whitehall,
19th September, 1902.

To the Secretary,
Local Government Board.

Appendix F.

Put Stamp Here.

City of Paris.

Water Distribution.

Service of Spring Water Contracts at fixed price, for domestic purposes.

.....Arrondissement.

Street .....
No .....
Quarter.....
Mr. .....

Calculation of Contract Price:

Apartments below 300 fr. at 6 fr. each; apartments from 300 to 400 excl. at 9 fr. each; apartments from 400 to 640 excl. at 14 fr. each; apartments from 640 to 800 incl. at 20 fr. each.

Annual Contract Price.

Price of cub. m. consumed in excess of....cub. m. 0.35 fr.

Number of intakes on public conduit.....
Annual Rental....

POLICY. { No ..... Date..... Entering into possession ...

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)
Stock Company.—Capital 40,000,000.
Home Office: 52 Rue d'Anjou, Paris.

POLICY OF FIXED-PRICE SUBSCRIPTION FOR SPRING WATER,

for domestic and similar uses (Article 14 of the Regulations).

Mr.....
residing at..... .....
street..... .... No....., who elects domicile in the premises to be served, applies to the General Water Company, acting in the name and on behalf of the City of Paris, in the building whereof .....Street.....No..... for a subscription for spring water which he declares shall be exclusively employed for domestic use or other purposes defined in Article 4 of the Regulations, and excepting any employment as motive power.

This subscription applies to all the residence premises included in this building, and composed as follows, in conformity with the declaration of the contracting party:

Apartments of an assessed rental below 300 francs.

Apartments of an assessed rental below 300 to 400 francs exclusive.

Apartments of an assessed rental below 400 to 640 francs exclusive.

Apartments of an assessed rental below 640 to 800 francs inclusive.

The total price of this subscription is fixed, in conformity with Article 14 of the Regulations, at.....
.....

The quantities of water consumed will be recorded by a meter. All consumption exceeding..... a year will be paid at the rate of 0.35 francs per cubic meter.

The above maximum of consumption has been calculated at the rate of 20 cubic meters per person inhabiting the above premises, the number of these persons having been fixed at.....by the Municipal Administration, as acknowledged by the contracting party and the General Water Company.

For the first year the maximum of consumption allowed at fixed price will be calculated from the day of entering into enjoyment of the policy at the rate of 5 cubic meters per quarter of the year and per person inhabiting the said premises.

PREDECESSOR. { No ..... Mr ....

METER. { No ..... Diameter ..... System..... In ..... to be kept in repair by.....

Bureau of Complaints: .....

Article 25 of the Regulations: The costs of stamps and registry of policies are paid by the grantee.

Any quantity to which the fixed price entitles and which is not consumed within a year cannot be carried forward to the following year.

Mr.....
will pay in advance and by half years the amount of .....fixed subscription.

If, at the request of the contracting party, the water is delivered before the beginning of the subscription, the consumption between the date of placing at disposal and that of entering into possession will be paid at the rate of 0.35 francs and included in the first quarterly receipt.

The consumption will be ascertained from the meter four times a year at as regular intervals as possible, and the payment of the surplus, beyond the volume allowed at contract price, will be due and payable within 15 days after each time the index has been taken.

Mr.....
will pay annually in advance a rent of.....francs, for.....connection.....made with the public conduit and serving the present grant.

The meter shall be of.....mm. diameter.

It will be the property of.....

The grantee will pay for.....
of this apparatus the annual sum of.....
in advance, payable in instalments of one-half at the beginning of each half year.

Mr.....
accepts the Regulations for Grants of Spring Water, dated August 8, 1894, whereof he declares having taken cognizance and possessing a copy.

Made in duplicate at Paris the.....
.....

The Grantee: .....

The Director of the Company: ....

Put Stamp Here.

Water Distribution.

City of Paris.

..... Water

....th Arrondissement.

Street.....
No .....
Quarter.....

Mr.....
Quantity.....
Annual payment..
.....

POLICY. { No ..... Date .... Entering into possession ...

PREDECESSOR. { No ..... Mr... ....

Bureau of Complaints.
Street.....

Art. 37 of the Regulations:

The costs of stamp and registry of the policies are paid by the subscribers.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Home office of the Company, Rue d'Anjou-St.-Honoré, 52.

SUBSCRIPTION POLICY.

Mr.....
residing at.....street..... ....No.....
applies to the *General Water Company* for delivery, by way of annual subscription, in the property whereof.....
street.....No.....of the quantity of.....litres of water of .....which.....declares shall be employed exclusively for the private needs of.....
.....
.....
.....

This water will be delivered in the manner indicated in Section....of Article 2 of the regulations relating to subscriptions in consideration of the annual sum of .....
which.....undertakes to pay.....
in advance to the General Water Company, counting from the day of entering into possession, fixed at .....

The General Water Company, acting in the name and on behalf of the City of Paris, will cause this supply to be delivered on the terms and conditions of the regulations whereof Mr.....
acknowledges having taken cognizance and received copy.

Made at Paris the.....
.....day of.....18....

The Subscriber: .....
The Director of the Company: .....

Seen, the manager of the service:

Put Stamp Here.

Water Distribution.

City of Paris.

Service of Meter Subscriptions.

Water of.....

.....th Arrondissement.

Street.....
No .....
Quarter.....

Mr.....
Quantity .....
Annual Sum .....

POLICY. { No..... Date..... Entering into possession.

PREDECESSOR. { No..... Mr..... ....

Bureau of Complaints.

Article 37 of the Regulations.

The costs of stamp and registry are paid by the subscribers.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Stock Company. Capital 40 Millions.

52, Rue d'Aujou-Saint-Honoré, 52.

POLICY OF SUBSCRIPTION.

For Domestic Use.

Mr.....
.....residing at
.....street.....No.....
applies to the General Water Company, for service by way of annual subscription, in the property whereof
.....street ....No.....
of the quantity of.....
litres of water of.....which.....declares shall be employed exclusively for the private needs of
.....
.....
This water will be delivered in conformity with the manner indicated in Section 3 of Article 2 of the Regulations as to Subscriptions, in consideration of an annual sum of....., which.....
engages.....self to pay semi-annually in advance to the General Water Company from the day of entering into possession, fixed as the first day of.....
190....

If, at the request of Mr.....
the water is furnished before the above indicated date, there will be made up a bill for advance delivery, which will be paid at the same time as the receipt for the subscription.

The General Water Company, acting in the name and on behalf of the City of Paris, will furnish this water on the terms and conditions of the regulations whereof Mr.....
acknowledges having taken cognizance and received a copy, and furthermore on the conditions printed on the back of the present policy.

Made in duplicate at Paris.....
the.....190....

The Subscriber: .....

The Director of the Company: .....

Seen, the manager of the service.

(Reverse Side of Foregoing Subscription).

The water will be delivered as per meter. Consequently there will be placed in the subscriber's house a meter of one of the systems allowed by the City of Paris. The diameter of this meter will be.....

This meter will be furnished and placed by the subscriber and at his expense. It will also be kept in repair by the subscriber, and any repairs demanded by the Company must be executed without delay, under penalty of closure of the grant until the repairs have been made.

At the entrance of the meter there will be placed, at the expense of the subscriber, a safety cock. The meter will be placed and kept in position by means of screws or fastenings on a fixed and perfectly horizontal platform; its fittings to the entrance and exit pipes will be sealed with the imprint of the Company's seal.

Any breaking of fastenings and of seals, by the subscriber or his agents, can give occasion to a suit for damages and interest, and to all legal actions.

The subscriber is formally forbidden to make any change in the organs of the meter and its accessories, and in its position, without the consent of an agent of the Company.

The subscriber must give the agents of the Company free access to the place where the meter is placed; any refusal hereof will be prosecuted by all legal means.

The spot where the meter is placed must be easy of access, and selected in such a manner that the figure of the water consumption can be easily read.

Any act that might serve the purpose of obtaining water without the consent of the Company and outside of the quantities going through the meter will be prosecuted by all legal means.

The subscriber will have no extra payment to make if the quantity of water indicated by the meter does not surpass the minimum mentioned elsewhere; but he shall not be entitled to any reduction on this minimum, no matter what the real consumption may be.

On the other hand, he must pay for the excess per cubic meter, and at the price stated in this subscription policy, when the quarterly inspection of the meter shows that the amount of the annual consumption allowed in the policy has been exceeded. (Decision of the prefect, dated June 12, 1884.)

In case of entering into possession in the course of the year, the first business year will close the 31st of December next following, and the following business years will run from January 1st to December 31st.

The subscriber cannot be upheld in his complaint as to insufficient supply of water, if the volume of water indicated by the meter represents at least that called for by the terms of subscription.

The volume of water consumed will be read off the meter in the course of the first two weeks of every quarter of a year, with notice to the subscriber, who must acknowledge and sign this taking of index.

In case of stoppage of the meter, the consumption during the continuance of this stoppage will be calculated at the average daily use of water during the same period of the preceding year.

In case the water is turned away from its destination as indicated over leaf, the water will immediately be suppressed, and the subscriber immediately prosecuted by all legal means for misappropriation.

THE SUBSCRIBER:

NOTE:—The undersigned applies for a meter at rent; consequently, the Company will furnish and place this meter, the system whereof will be selected among those approved by the administration.

The rent and repair of this meter will be paid by the subscriber, undersigned, to the company, in conformity with Article 23 of the Regulations as to Subscriptions, and also Article 8, Section 2, of the Agreement of March 20, 1880, which is worded as follows: "The Company will collect from its subscribers, in one single payment and in advance, the annual rental, and the cost of keeping the meter in repairs, in conformity with the tariff above indicated."

The cost of keeping in repairs does not include the expenses of repairs caused by frost. These expenses will be chargeable to the subscriber, undersigned, on whom it is incumbent to take the precautions necessary to avoid accidents of this nature.

THE SUBSCRIBER:

Put Stamp Here.

Water Distribution.

City of Paris.

Meter Subscription Service.

.....Water

in.....th Arrondissement.

Street .....
No.....
Quarter.....

Mr.....
Quantity.....
Annual sum.....

Policy. { No..... Date..... Entering into possession...

Predecessor. { No..... Mr.....

Bureau of Complaints, ...Street

Art. 37 of the Regulations.

The costs of stamp and registry are paid by the subscriber.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Stock Company. Capital 40 Millions,

52, Rue d'Anjou-Saint-Honoré, 52.

SUBSCRIPTION POLICY

For Industrial Purposes.

Mr..... residing at .....street.....No..... applies to the General Water Company for delivery, by way of annual subscription, in the property whereof..... street.....No.....of the quantity of.....litres of water of .....which.....declares shall be employed exclusively for the private needs of.....

.....

.....

.....

This water will be delivered in the manner indicated in Section 3 of Article 2 of the regulations as to subscriptions in consideration of the annual sum of ..... which.....engages.....self to pay semi-annually in advance to the General Water Company, counting from the day of entering into possession fixed at the first day of.....190....

If at the request of Mr..... the water is furnished before the above date, there will be made up a bill for that advanced supply, which bill will be paid at the same time as the subscription receipt.

The General Water Company, acting in the name and on behalf of the City of Paris, will cause this supply to be furnished on the terms and conditions of the regulations whereof Mr..... acknowledges having taken cognizance and received a copy, and furthermore on the conditions printed on the back of the present policy.

Made in duplicate at Paris the..... .....190....

The Subscriber: .....

The Director of the Company: .....

Seen, the manager of the service.

(The reverse side of this subscription is the same as the back of the preceding form.)

Put Stamp Here.

City of Paris.

Water Distribution.

Service of Spring Water.
Grants for Domestic Purposes.

.. Arrondissement.

Street .....
No .....
Quarter .....

Mr .....
Price per cubic meter of Consumed Water, 0.35fr.

Number of Intakes on the Public Conduit .....
Annual rental ..... francs

POLICY.
No .....
Date .....
Entering into Possession ....
.....

PREDECESSOR.
No .....
Mr .....
.....
.....

METER.
No .....
Diameter .....
System .....
In .....
To be kept in repair by .....

Bureau of Complaints:
.....

Art. 25 of the Regulations:
The costs of stamp and registry of policies are paid by the grantee.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Stock Company. Capital, 40,000,000.

Home Office: Rue d'Anjou-St. Honoré, 52, Paris.

Policy of Grant of Spring Water for Domestic or Similar Uses.

Mr .....
..... residing at
..... street ..... No .....
who elects domicile at the premises to be served, applies to the General Water Company, acting in the name of and on behalf of the City of Paris, in the building whereof .....
..... street ..... No .....
for a grant of spring water which .....
declares shall be exclusively employed for domestic use, or other purposes defined in Article 4 of the regulations, and excepting any employment as motor power.

The quantities of water consumed will be recorded by a meter and paid for at the rate of 0.35 fr. per cubic meter.

The consumption between the date of placing at disposal and that of entering into possession will be included in the first quarterly receipt to be made out.

The consumption will be ascertained from the meter four times a year, at as regular intervals as possible, and the payment thereof will be due within fifteen days after each time the index has been taken.

Mr ..... will pay annually, in advance, a rent of ..... francs for the connection made with the public conduit serving the present grant.

The meter shall be of ..... mm. diameter.

It shall be the property of .....

The grantee will pay for .....
of this apparatus the annual amount of ..... francs, in advance, in instalments of one-half, to be paid at the beginning of each half year.

.....
.....
.....
.....

Mr .....
accepts the regulations for grants of spring water, dated August 8, 1894, whereof he declares having taken cognizance and possessing a copy.

Made in duplicate, at Paris, the .....
..... day of ..... 19..

The Grantee: .....

The Director of the Company: .....

Put Stamp Here.

City of Paris.

Water Distribution.

Service of Spring Water, Contracts at half rate, for domestic purposes.

... Arrondissement

Street.....
No.....
Quarter.....

Number of inhabitants in building.....
Number of apartments.....

Price of cub. meter of water consumed: Up to..... a year, 0.175 fr. Beyond the maximum, 0.35 fr.

Number of intakes on the public conduit.

POLICY { No..... Date..... Entering into possession....

PREDECESSOR. { No..... Mr..... .....

METER. { No..... Diameter..... System..... in..... To be kept in repair by.....

Bureau of Complaints.....

Art. 25 of the Regulations:

The costs of stamp and registry of policies are paid by the grantee.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company,)

Stock Company. Capital, 40 Millions.

Home Office of Company:

52 Rue d'Anjou-St. Honoré, Paris.

Policy of Subscription for Spring Water at Half Rate for Domestic or Similar Uses.

(Art. 15 of the Regulations.)

Mr.....
residing at.....
.....street.....No.....
who elects domicile at the premises to be served, applies to the General Water Company, acting in the name of and on behalf of the City of Paris, in the building whereof.....
.....street.....No.....
for an allowance of spring water which.....
declares shall be exclusively employed for domestic use or other purposes defined in Art. 4 of the Regulations, and excepting any employment as motive power.

Mr.....having declared that the assessed revenue of the property in question is.....and that it contains..... apartments; the quantities of water consumed, which shall be recorded by a meter, will be paid at the rate of 0.175 fr. per cub. meter up to a maximum amount of .....per year.

Beyond this limit, the quantities consumed will be paid at the rate of 0.35 fr. per cub. meter.

The maximum of consumption hereabove indicated has been calculated at the rate of 20 cub. m. per person inhabiting the property; the number of these persons has been fixed at.....by the Municipal Administration as acknowledged by the contracting party and the General Water Company.

For the first year the maximum of consumption enjoying the half rate will be applied pro rata to the number of days elapsed from the placing at disposal up to December 31.

If the consumption of the contracting party should not, at the end of the year, reach the maximum above determined, the quantity not consumed cannot be carried forward to the following year.

The consumption between the date of placing at disposal and that of entering into possession, will be included in the first quarterly premium to be made out.

The consumption will be ascertained from the meter four times a year at as regular intervals as possible, and the payment thereof will be due and payable within fifteen days after each time the index has been taken.

The meter shall be of.....mm. diameter.

It shall be the property of.....

The grantee, Mr.....will pay for.....of this apparatus the annual sum of.....in advance and in installments of one-half, to be paid at the beginning of each half year.

.....
.....
Mr.....
accepts the regulations for grants of spring water under date of Aug. 8, 1894, whereof he declares having taken cognizance, possessing a copy.

Made in duplicate, at Paris, the.....
.....day of.....

The Grantee:.....
The Director of the Company:.....

Put Stamp Here.

City of Paris.

Water Distribution.

Service of Spring Water Grants for temporary use.

.. Arrondissement.

Street.....
No.....
Quarter.....
Mr.....

Price per cubic meter, 0.35 fr.

Duration of the Allowance ....days.

Amount of the Allowance:
.....cub. meters
.....francs

Number of Intakes on Public Conduit.....

Annual Rent.....

POLICY.
No.....
Date.....
Entering into Possession...
.....

METER.
No.....
Diameter.....
System .....
In.....
To be kept in repairs by....

Bureau of Complaints:
.....

Art. 25 of the Regulations:
The costs of stamp and registry of the policies are paid by the grantee.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Stock Company. Capital, 40,000,000.

Home Office: Rue d' Anjou-St. Honoré, 52, Paris.

POLICY OF SPRING WATER GRANT

For Temporary Use.

Mr.....
residing at.....
.....street.....No.....
who elects domicile in the premises to be served, applies to the General Water Company, acting in the name and on behalf of the City of Paris, in the premises whereof.....
.....street.....No.....
for a temporary allowance of spring water at the rate of.....litres a day from.....
.....to.....*i. e.*, total.....
cubic meters.

The grantee will pay at the home office of the Company before any water being placed at his disposal, the sum of..... .....francs, representing the value of the water above applied for.

As soon as the water meter shall indicate the above stipulated number of cubic meters, the price of the consumption over and above this water volume will be immediately due and payable.

Mr.....will pay in advance a rent of six francs for the intake made on the public conduit, serving the present allowance.

The meter will be of..... .....mm. diameter.
It will be the property of.....

The grantee will pay at the home office of the company, before any water is placed at his disposal, for hire and keeping in repairs of the meter, the amount of.....corresponding to the duration of the present agreement, to wit:.....
.....
.....
.....

Mr.....
.....accepts the regulations as to spring water grants, dated August 8, 1894, whereof he declares having taken cognizance and possessing a copy.

Made in duplicate at Paris, the.....
.....

The Grantee:.....
The Director of the Company:.....

Put Stamp Here.

City of Paris.

Water Distribution.

Service of spring water grants to make mechanical engines move.

..Arrondissement.

Street.....
No.....
Quarter.....
Mr.....

Price of cub. meter of water consumed: 0.60 fr.

Number of intakes on the public conduit.....
Annual Rental....

POLICY. { No..... Date..... Entry into possession: ..... }

PREDECESSOR. { Mr..... No..... .... }

METER. { No..... Diameter..... System..... In..... to be kept in repairs by..... }

Bureau of Complaints .....

Art. 25 of the Regulations.
The costs of the stamp and registry of the policies are paid by the grantee.

COMPAGNIE GÉNÉRALE DES EAUX.

(General Water Company.)

Stock Company.—Capital 40,000,000.

Home Office of Company Rue d'Anjou-Saint-Honoré, 52, Paris.

POLICY OF SPRING WATER GRANT,

destined for moving mechanical engines.

M.....
residing at.....street.....No.....
who elects domicile in the premises to be served, applies to the General Water Company, acting in the name and on behalf of the City of Paris for an allowance of spring water to be delivered in the premises whereof.....
street.....No.....
which he declares shall be employed exclusively to move.....

The quantities of water consumed will be recorded by.....meter, through which they must pass isolatedly. They will be paid at the rate of 0.60 fr. per cubic meter.

The consumption taking place between the date of placing at disposal and that of entering into possession will be included in the first quarterly bill to be rendered.

The consumption will be ascertained from the meter four times a year, at as regular intervals as possible, and the payment thereof will be due within fifteen days after each time it has been ascertained.

Mr.....will pay annually, in advance, a rental of.....francs for the intake.....made on the public conduit and serving the present grant.

The meter will be of..... .....mm. diameter. It will be the property of.....

The grantee will pay for..... ..... of this apparatus the annual sum of..... .....in advance, in instalments of one-half, payable at the beginning of each half year.

....
.....
.....

Mr.....accepts the regulations as to Spring Water Grants, dated Aug. 8, 1894, whereof he declares having taken cognizance and possessing a copy.

Made in duplicate at Paris the.....
....

The Grantee: .....
The Director of the Company: .....

Put Stamp Here.

Water Distribution.

City of Paris.

Gauge-Subscription Service.

..... Water

....th Arrondissement.

Street.....
No.....
Quarter.....

Mr.....
Quantity.....
Annual sum.....

POLICY. { No...*.....
Date.....
Entering into possession...

PREDECESSOR. { No.....
Mr.....
.....

Bureau of Complaints.
Street.....

Art. 37 of the Regulations:
The costs of stamp and registry are paid by the subscribers.

COMPAGNIE GÉNÉRALE DES EAUX

(General Water Company.)
Stock Company, Capital: 40,000,000.
52 Rue d'Anjou-Saint-Honoré, 52

GAUGE SUBSCRIPTION POLICY.

Mr.....
residing at.....street.....No.....
applies to the General Water Company for delivery, by way of annual subscription, in the property whereof..
street..... .....No.....
of the quantity of.....litres of water
.....which.....declares shall be exclusively employed for the private needs of.....
.....
.....
.....

This water will be delivered in the manner indicated in Section 1 of Article 2 of the regulations as to subscriptions in consideration of the annual sum of
.....
which.....undertakes to pay semi-annually in advance to the General Water Company, counting from the day of entering into possession, fixed at the 1st day of.....190....

If at the request of Mr..... .....
the water is delivered before the date above indicated, a bill will be rendered for this advance delivery, which will be paid at the same time as the subscription receipt.

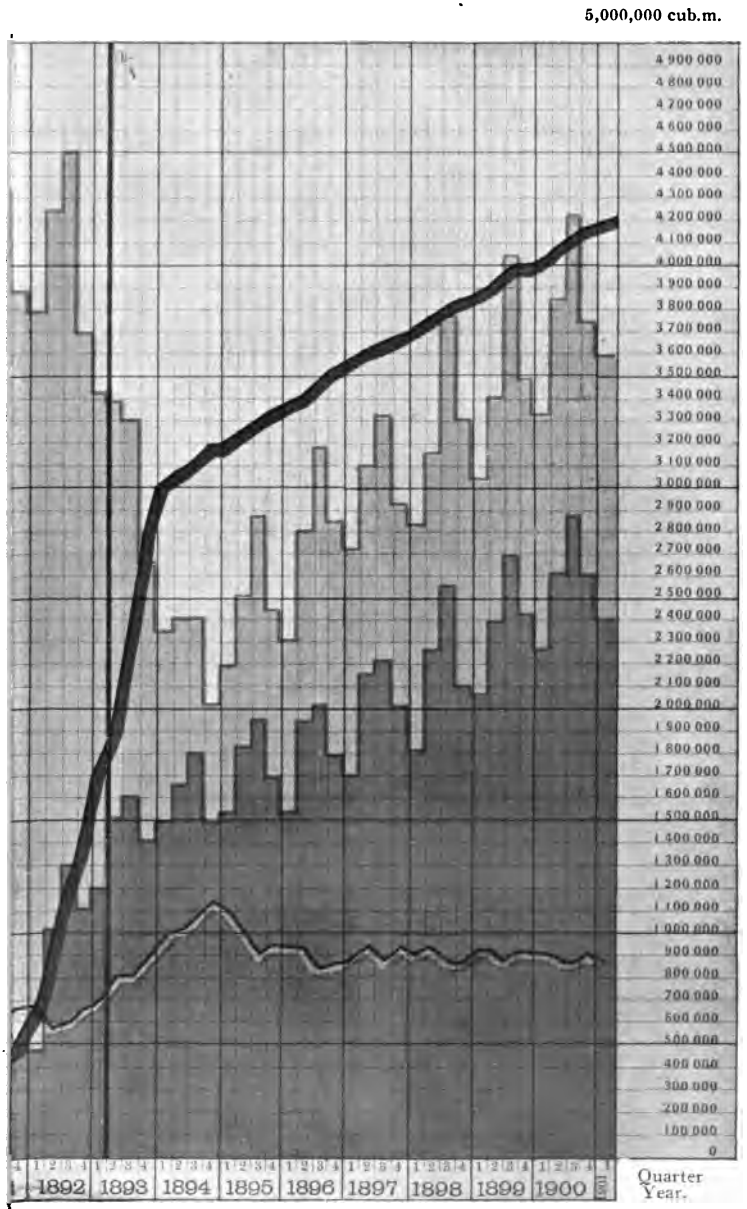
The General Water Company, acting in the name and on behalf of the City of Paris, will cause this supply to be delivered on the terms and conditions of the regulations, whereof Mr.....
acknowledges having taken cognizance and received copy.

Made in duplicate at Paris the.....
.....190....

The Subscriber: ....

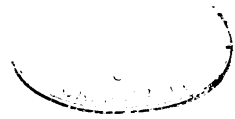
The Director of Company:].....

Seen, the manager of the service:



On April 1, 1892, compulsory introduction of water meters.

On April 1, 1895, introduction of new fee system.



Appendix G—Exhibit 2.

Water Consumption as per Meter, 1902. Water Consumption as per Meter, 1902.

Folio	Names	Street	No.	Building Tax M. P	Minimum Fee M. P.	Size of Meter (in mm.)	Second Quarter, 1902				Third Quarter, 1902				Fourth Quarter, 1902				First Quarter, 1903			
							Index the	Consumption in cub. m.	Amount as per Meter M. P.	Amount of Debit M. P.	Meter Rent M. P.	Total Amount M. P.	Index the	Consumption in cub. m.	Amount as per Meter M. P.	Amount of Debit M. P.	Meter Rent M. P.	Total Amount M. P.	Index the	Consumption in cub. m.	Amount as per Meter M. P.	Amount of Debit M. P.	Meter Rent M. P.	Total Amount M. P.

Columns here reduced, but original shows the space necessary for lines.

Fol....

CITY GAS, ELECTRICITY AND WATERWORKS.

Cologne, October, 1902.

BILL FOR MR.....

.....Cologne

for water consumption and rent of water meter for *III. Quarter of* 1902.

	M	P
Index of Water Meter the.....cbm.....		
" " " " " "		
Consumption.....cbm.....		
To Minimum Fee as per Sec. 7 of Terms.....		
To Rent of.....mm-Meter.....		
Received the above amount Total Marks		

CITY GAS, ELECTRICITY AND WATERWORKS.

FEES.

The water consumers falling within the first seven classes can draw during each quarter of a year 20 cbm. Water for the minimum fee stated, but a larger consumption must be paid extra in accordance with the quantity acutally consumed.

In the case of all premises belonging to the public treasury or the city, or other premises exempt from taxation and not serving industrial purposes, the minimum fee is to be calculated in accordance with Sec. 7a.

For that purpose an amount of building tax is to be estimated by appraisal or agreed upon, taking into account the privileges provided for by Sec. 5 of the Building Tax Law.

But if the premises are employed for industrial purposes of any kind, then the minimum fee is calculated according to Sec. 7b. Buildings exempt from taxation are entered with 4 per cent, of the rental value in conformity with the legal provisions applying to the assessment of the building tax.

In the case of buildings employed for church or school purposes, as well as educational and charitable institutions, instead of 4 per cent. only 2 per cent. of the rental value is charged as amount of the building tax.

b. Water Consumption for Agricultural, Industrial and Building Purposes.

For agricultural, industrial and building purposes, and on the whole in all cases not previously mentioned (excepting purposes of fire extinction), where it does not seem practicable to use the building tax rental value as basis for the establishment of the minimum fee, the quarterly minimum fee is measured by the width in the clear of the water meter placed in the building.

Such fee is:

In	a	water	meter	of	13	mm.	width	in	the	clear,	5,— Marks quarterly
"	"	"	"	"	20	"	"	"	"		6,— " "
"	"	"	"	"	26	"	"	"	"		8,— " "
"	"	"	"	"	38	"	"	"	"		10,— " "
"	"	"	"	"	40	"	"	"	"		15,— " "
"	"	"	"	"	50	"	"	"	"		20,— " "
"	"	"	"	"	80	"	"	"	"		30,— " "
"	"	"	"	"	100	"	"	"	"		40,— " "
"	"	"	"	"	125	"	"	"	"		50,— " "
"	"	"	"	"	150	"	"	"	"		60,— " "

If in one connection conduit several meters are used, then the width of the connection conduit is used as a basis for the calculation of the minimum fee.

In regard to properties on which there are no inhabitable premises, a reduced minimum fee may be charged; the amount of this fee will in every individual case be established by the Administration of the Waterworks.

c. Water Consumption for Fire Extinguishing Purposes.

Fire hydrants may only be used in event of fires, and for no other purposes, and in order to make sure that so will be the case, the Director of the Waterworks shall have the right to provide them with a leaden seal, that can only be removed in case of fire.

Any use of the fire hydrants must be reported to the Director of the Waterworks within twenty-four hours. If such report is not forthcoming the administration is entitled to demand payment of a fee for the water consumed; the quantity whereof under no circumstances can be estimated at less than 100 cub. m.

Appendix H—Exhibit 1.

Form 3. W. No. 35.—1.

TO THE CITY WATER WORKS.

I hereby request you, from.....190 to furnish me water for the property..... ....

For the water I pay according to regulations of January 16 and 17, 1901. Piece mm. Water Meter. When depositing the security in public securities I undertake to personally look out for the charge of the coupon stubs, and in case of securities subject to notice, drawing, conversion or other alteration, to take the steps necessary to secure my rights, or to request to have them taken, otherwise the consequences will fall upon myself alone. The return to me of the security given for water in amount of.....marks will only take place when in case of sale of the property the buyer has deposited a new security of the same amount. Book No..... Quarter No..... Ward No.....	Remarks of Administration. H. H. to the... .....190 B. Z. No.....

I am familiar with the provisions of the regulations of the City Water Works, and I declare that I accept them.

Berlin, the.....th.....190

Signature of Property Owner, { Name..... Social Condition..... Residence.....

Bills paid by.....

PROPERTY OWNER'S

Name	Social Condition	Residence	Place of Payment

Form No. 6.

House Conduit No.....

B. Z. No.....

TO THE CITY WATER WORKS.

Name..... **Residence**.....

....

I hereby request that the fitting necessary for a water conduit for the property..... .....**be furnished at my expense as per the approximate estimate of expenses given below. If I should order other fittings besides those mentioned in the specifications below, then they will be charged me at the prices customary with the City Water Works.**

If, by order of the police or for other reasons, the work ordered is to be done by night, the night pay of workmen will be charged extra.

Length in Meters	Size in mm.	ESTIMATE OF EXPENSES	Mark	Mark	Pf.
		Making of Prescribed Notifications, Piercing of Street Main, Cutting of Worm, Furnishing and Fixing a Piece Tube, Bell with.....Main Cock, Matrix	.....	.....	....
		Cutting Out a....mm. Main Pipe and Putting in a Similar One with Double Muff and....mm. Branch	.....	.....	....
		Furnishing and Fixing One.....mm. Main Cock	.....	.....	....
		Casing with Cast-Iron Box and Cover for the same..	.....	.....	....
.....	.....	Cast-Iron High-Pressure Pipe, incl. Fittings.....@	.....	.. ..	....
.....	.....	Leaden High-Pressure Pipe, incl. Fittings.....@	.....	.....	....
.....	.....	Digging, Filling and Restoring of Ground.....@	.....	.....	....
Pieces	.....	Cast-Iron Double Muff.....@	.....	.....	....
.....	.....	" Arch.....@	.....	.....	....
.....	...	" End Muff, incl. Tightening.....@	.....	.....	....
.....	.....	Sucker Piercing..... @	.. ..	.....	....
.....	.....	Lead Solderings (so-called Flap Soldering).....@	.....	.....	....
.....	.....	" " " " " .....@	.....	... .	....
.....	.....	Private Stop-Cock.....	.....	.....	....
.....	.....	Iron Key for the Same.....	.....	.....	....
.....	.....	Casing for the Same.....	.....	....	....
.....	.....	Hexagonal Cast-Iron Capsule with Wooden Block..	.....	.....	....
		Placing a.....mm. Water Meter.....	.....	.....	....
		Casing for the Same in Stone and Cement with Frame and Lid—extra.....	.....	.....	....
		Workmen, Plumber and Assistant.....	.....	.....	....
		Unforeseen Events.....	.....	.....	....

W. No. 47.—09.

Pieces	Size in mm.		Mark	Mark	Pf.
		Total			

Floor	Apartm't	Cocks	Clos.	Urinal	Bathr.	Pipe	

I declare that I accept the rules which, according to rates and regulations of the City Water Works, must be followed in laying water conduits in the interior of houses or lots. At the same time I undertake to build in in the third and fourth floors at least 20 mm. wide ascension pipes.

Berlin, the 1th.....

Signature of Property Owner,
Name.....
Condition in Society.....
Residence.....

Appendix H—Exhibit 2.

City Waterworks. Bookk. Quar. Ward Cat. No.
Office: Klosterstrasse 68

WATER-BILL FOR THE LOT

..... Street.....

Owner: Mr.....

Payable.....Ward.....Quar.....

The Watermeter Indicated		Consumption Cubic Meter	Calculation	Amount Marks	Pf.
in September 1902	0				
in June 1902	 0	0	as per Regulations of January 17, 1901, per cubic meter at 15 pf...	.. ..	....
in.....1902	0				
in.....1902	0	0			
in.....1902	0		Lot Amount.....	4	—
in.....1902	0	0			
in.....1902	0				
in.....1902	0	0			
	TOTAL	0	Quarter of July-September, 1902.....Mark	.....	..

Payable in Currency of the Empire

Above amount has been duly paid in cash, and receipt hereby given.

Berlin, September 30, 1902.

MAIN TREASURY OF THE CITY WORKS.

This receipt is valid only when provided with the stamp of the Main Treasury of the City Works.

Form 16.

Mr.....

The Water Meter.....

.....

indicates Cubic-Meter.

The consumer has received this notice as to the water-meter index on the day it was taken; it is considered as sufficient evidence, if an alleged error is not brought to notice within three days after index was taken.

BERLIN, the.....th 189

The Direction of the City Water Works.

Form No. 24.

MONTHLY RECORD OF CONSUMPTION

Fol.....

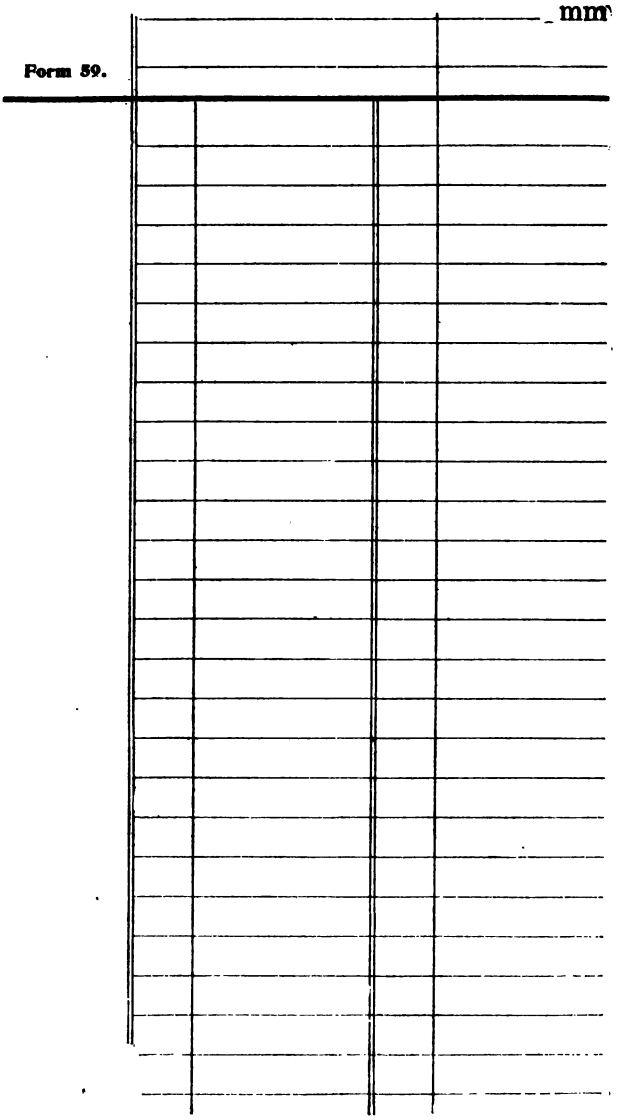
.....

.....

.....

Con-sumption	Month	Taken	Index	Con-sumption	Remarks	Size and No. of Meter
1901	**1902**					
	April					m/m
						No.
	July					Manf.
	October					
	1903					
	Jan.					
	April					
	July					
	October					
	1904					
	Jan.					
	April					

INSPECTOR'S NOTE BOOK.



Bookk. ..... **Quarter** ..... **Ward** ..... **Cat. No.** .....

No. ..... Sec. .....

Lot No .....

..... Waterm ..... mm

Owner

Date Day | Mth	Index cbm	Amount Water M | S	Meter Rent M | S	Date Day | Mth	Index cbm
April—June, 1898				**July—Sept**	
Mar	0			Sept	
June	0				
	0				
	0				
	0				
	0				
April—June, 1899				**July—Sept**	
June	0			Sept.	
	0				
	0				
	0				
	0				
	0				
April—June, 1900				**July—Sept**	
June	0			Sept.	
	0				
	0				
	0				
	0				
	0				
April—June, 1901				**July—Sept**	
June	0			Sept.	
	0				
	0				
	0				
	0				
	0				
April—June, 1902				**July—Sept**	
June	0			Sept.	
	0				
	0				
	0				
	0				
	0				

Form 107

Street Fol.....

dex cbm	Amount Water M | S	Amount Meter Rent M | S	Date Day | Mth	Index cbm	Amount Water M | S	Amount Meter Rent M | S	Date Day | Mth	Index cbm	Amount Water M | S	Amount Meter Rent M | S
ptember, 1898			October—December, 1898				January—March, 1899			
0			Dec	0			Mar	0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
ptember, 1899			October—December, 1899				January - March, 1900			
0			Dec.	0			Mar	0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
ptember, 1900			October - December, 1900				January—March, 1901			
0			Dec.	0			Mar	0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
ptember, 1901			October—December, 1901				January—March, 1902			
0			Dec.	0			Mar	0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
tember, 1902			October—December, 1902				January—March, 1903			
0			Dec.	0			Mar	0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		
0				0				0		

W. No. 66.—us.

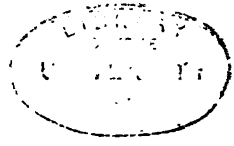
Appendix I.

WATER DEPARTMENT STATISTICS OF CITIES IN GREAT BRITAIN AND IRELAND.

City.	Population Supplied.	Death Rate per 1,000.	Filter System.	Daily Per Capita Consumed (Imperial Gallons).	No. Meters.	No. Gallons Flush Allowed Water-Closets.
Aberdeen	153 000	19.1	None	44.	709	3
Ashton under Lyme	140,000	....	None	20.	700	....
Barnsley	96,000	20 79	None	21.1	225	2
Barrow-in-Furness	71,000	13 49	Sand	43.5	194	....
Bath	68,000	16 16	None	22.04	240	3
Belfast	360,000	20.	Sand	33.	970	....
Blackburn	130 000	20.5	None	25 05	609	3
Bolton	273.000	19.2	Sand	21.48	1,209	2½
Bothwell	1,250,000	19.4	Sand	26.5	400	3
Bradford	450 000	17 1	Sand	40.	1,428	....
Bristol	353.374	....	None	22.	2,000	....
Burnley	97,000	19.	Sand	22.91	550	3
Cardiff	200,000	13 7	Sand	25.	1,600	3
Carlisle	45,478	19.2	None	26.	150	....
Chettenham	55,000	14.	Sand	16 92	280	2
Cork	80,000	17.3	Through river bank into tunnel and settling basin	53.	460	....
Coventry	68,877	18 4	None	27.	370	2
Derby	125,000	....	Filter tunnel in gravel strata	21.	791	2
Devonport	66,674	18.	Sand	30.	300	....
Doncaster	40.000	18.13	Sand	20.	105	2
Doon	42 000	16 6	.....	28.92	250	....
Dublin	330,000	27.5	Sand	36.	1,350	....
Dundee	200 000	20 2	None	49.	701	....
East Surrey	70,000	14 5	.....	21.	495	2
Exeter	60.000	17.9	Sand	30.	125	2½
Gosport	30,000	18 9	.....	16.60	89	....
Great Grimsly	77.000	13 46	.....	27.	285	3
Hamilton	32.775	24 73	Sand	53.	88	....
Harrogate	35 000	13.	Sand and limestone	34.	110	....
Hastings	75,000	14 47	.....	16.	216	....
Hereford	21 382	16 93	Sand	33.	300	....
Heywood and Middleton	56 000	18.	Sand	20.	37	....
Huddersfield	152 000	....	.....	26.	784	3
Ipswich	66.622	19.8	.....	20 63	581	....
Keighley, Borough of	42,000	20 8	Coke with powdered chalk, then sand, then polarite	30.	193	....
Kidderminster	30,000	17.08	.....	26.	127	....
Kilmarnock	36.000	14.7	Sand and gravel	40.	108	3
Leeds	440,000	19.3	Sand	34.	1,200	....
Leicester	253,325	....	Sand	20.33	1,103	....
Lincoln	59,950	16.4	Sand	24.1	177	....

Loughborough	23,000	16.3	Sand	26.	112	....
Maidstone	33,516	13.07	.....	15.	250	....
Mansfield	22,000	20.	.....	18.	60	3
Merthyr Tydvil	90,000	19.	.....	26.	4	....
Morley	35,000	18.5	Reeves Patent	16.1	200	....
Mountain Asp	32,000	18.6	Sand	20.	4	....
Newport	73,000	16.1	.....	24.	318	...
Nottingham	300,000	18.5	.....	18.	3,247	....
Oldham and District	223.000	....	None	23.	1,409	...
Oxford	53,000	13.	.....	24.	573	....
Paisley (Scotland)	101,000	20.5	.....	69.	380	3
Peterborough	30,890	14.71	.....	17.	500	....
Plymouth	125,000	19.64	None	48.	640	....
Pontypridd	100,000	14.	.....	25.	225	....
Poole	27,000	14.35	.....	20.	325	....
Preston	125,000	23.34	Copper gauge	37.	750	3
Reading	79,000	14 27	Polarite chamber	42.	236	2
Richmond, Surrey	32,000	15.4	None	33.	193	....
Rochdale	100,000	....	None	20.	700	....
Rotherham	78,000	19.	.....	20.	112	....
St. Helen's	90.000	21.63	.....	39.	276	3
Scarborough	58,000	17.5	.....	31	410	3
Sheffield	450,000	22.04	.....	25 81	3,551	...
Southampton	104,911	17.6	.....	40.8	1,080	2
Staffordshire Potteries	280,000	18.	None	20.	800	....
Stockport and Middlesbrough	220.000	20.	Sand	52.	667	...
Stourbridge	39,000	16.	None	25.	30	....
Sutton	40,000	....	None	20.	255	...
Swindon and District	45,000	12.4	Sand	10.	875	2
Torquay	51.000	15.6	None	31	186	3
Tunbridge Wells	36,000	17.73	None	18.	93	....
Wakefield	140,000	16.91	Sand	25.	390	3
					Trade	
Wallasey	53,580	16.53	None	36.51	452	2
Warrington	81,500	19.	Sand	25.	310	3
Weardale and Shildon	157,685	....	None	21.	663	....
Willingborough	18,500	12.1	Disc filters, Atkins type	8.33$_3$	280	3
Whitehaven	27,500	18.4	None	38.	90	....
Widnes	35,000	....	.....	19.12 down 52.55 trade	150	2
Wigan	60,770	21.	None	21.16	237	2½
Wolverhampton	136,000	20.	None	22.06	534	...
Worcester	46,600	19.2	Sand	30½	560	3
Wrexham	29,490	....	None	27.3	150	2
York	90,000	19.	Double through sand	32.44	765	2½
Ystrad	60,000	....	None	11.	70	....

New York City, Manhattan and Bronx	140	wine gallons
Brooklyn, about	85	" "
Kings, "	100	" "
Richmond, "	100	" "



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